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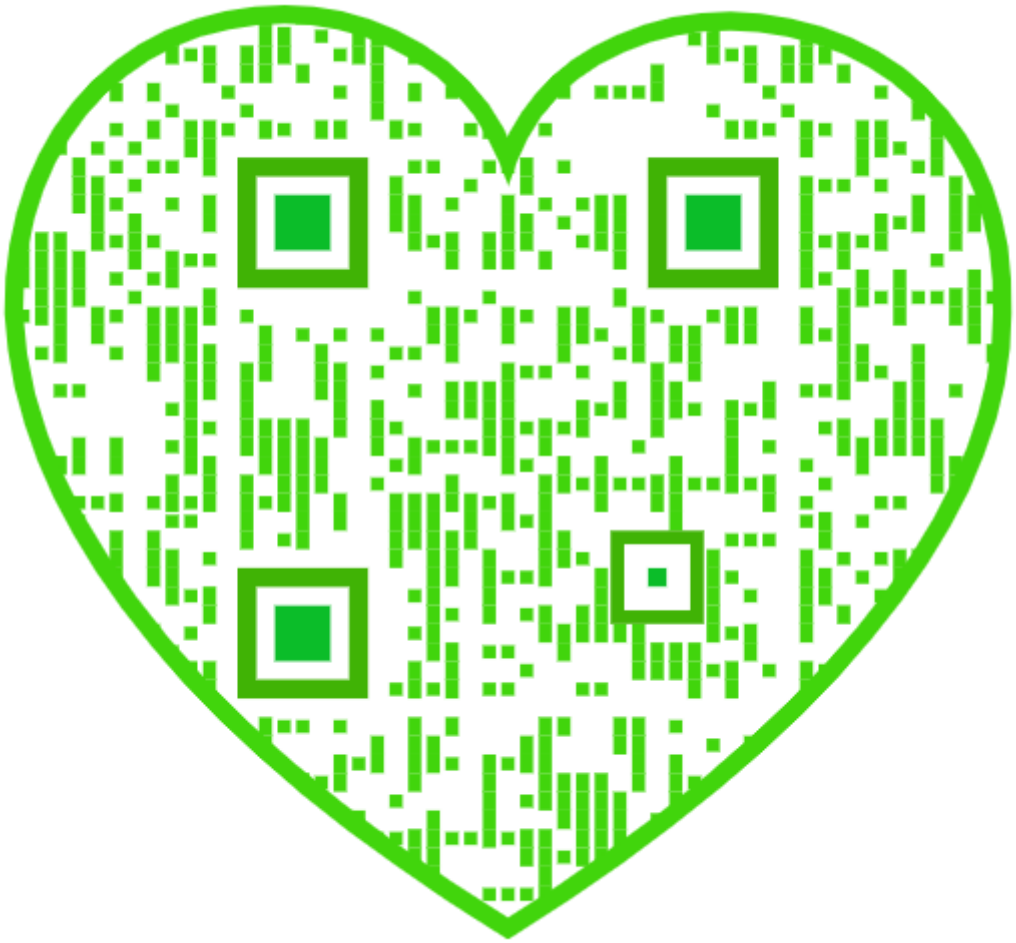

BOOK

OF

VETERINARY DOSES

THERAPEUTIC TERMS

AND

PRESCRIPTION WRITING

BY

PIERRE A. FISH, D.Sc., D.V.M.

Professor of Veterinary Physiology

New York State Veterinary College, Cornell University

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PREFACE TO THE FIFTH EDITION

The desire of the writer to place before the veterinary students and profession a convenient and ready reference to information concerned with dosage, prescription writing, incompatibility and antidotes for poisons, etc., has apparently been fulfilled by the call for a fifth edition.

Few changes have been made in the present edition. It has been the aim to cover the usual limit of dosages and it is believed that beyond a certain limit there is seldom a change. Other portions of the book concerning prescription writing, incompatibility, therapeutic terms, poisons, etc., deal with general and fundamental principles which are not frequently susceptible to change.

Notification of errors of omission or commission will be welcome as well as suggestions for improvement.

P. A. F.

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DOSAGE OR POSOLOGY

The most accurate system of dosage is to administer a given weight of medicine per kilogram or pound weight of the animal. Although this is frequently done in experimental work, the practice is attended with so much inconvenience when applied to the routine of the practitioner that the system is, for ordinary purposes, regarded as impracticable. A more or less arbitrary method is adopted by fixing the amount to be given to the different animals. Except, perhaps, in the case of powerful medicines or poisons, there is considerable latitude allowed in the amount of the doses. In veterinary practice the dose for the horse is commonly taken as the standard and the doses of the other domestic animals may be reckoned from this. As for example:

If the dose for the horse is	1 (Say 2 ounces)
the dose for the cow would be	$1\frac{1}{2}$ (" 3 ")
Sheep and goat	$\frac{1}{5}$ (" 3 drams)
Swine	$\frac{1}{8}$ (" 2 ")
Dog	$\frac{1}{16}$ (" 1 dram)
Cat	$\frac{1}{32}$ (" $\frac{1}{2}$ ")

In general the dose for the dog is about the same as the human dose, but the size of the dog must be considered. Reckoning from the dose for the dog or man as the standard; the pig would take twice as much, the sheep and goat three times as much, the horse sixteen times as much and the cow twenty-four times as much. The dose for the cat is usually one-half as much as for the dog. In many cases the dose for the horse and cow would be the same; the higher dose for

the cow is usually recommended on the ground of a slower rate of absorption because of the compound stomach and a larger mass of food with which the medicines mix before absorption may occur.

In the list of doses which follows, the horse and cow have been placed in the same group, and the sheep and the swine have been placed in a group by themselves. The dose given in either case is the average dose, but from the explanation just given, the dose, in most instances, may be increased somewhat for either the cow or the sheep.

In a general way the doses of different preparations of drugs for the horse may be given upon the following basis. If there is error in this classification, it is upon the safe and conservative side of too little rather than too much. Poisons and powerful medicines are, of course, an exception.

Fluidextracts..... one fluidram
Powders (not alkaloids).....one dram
Tinctures..... one fluid ounce

Hypodermics of alkaloids are given usually at one-half the dose by mouth. Intravenous doses one-half or two-thirds of the hypodermic dose. Rectal doses should be the same as those given by the mouth. In the following tables the doses are intended for administration by mouth unless otherwise stated.

On account of idiosyncrasy or individual susceptibility, it is safer in the case of new or powerful drugs, to try the minimum doses first and if the physiologic effects are not produced, gradually lead up to the maximum doses.

VETERINARY DOSES

	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric
Acetanilid (Antifebrin)	1– 6 dr.	4. –24.	¼–½ dr.	1. – 2.	2–10 gr.	0.13 –0.6
Acetozone					3–10 gr.	0.2 –0.6
Acid, Acetic Dil.	1– 2 oz.	30. –60.	1– 2 dr.	4. – 8.	½– 1 dr.	2. –4.
Arsenous	3– 6 gr.	0.2 – 0.4	½– 1 gr.	0.03 – 0.06	$\frac{1}{64}$–$\frac{1}{12}$ gr.	0.001 –0.005
Benzoic	2– 8 dr.	8. –30.	½– 1 dr.	2. – 4.	5–15 gr.	0.3 –1.
Boric (Boracic)	2– 6 dr.	8. –24.	½– 1 dr.	2. – 4.	5–15 gr.	0.3 –1.
Carbolic	15–30 gr.	1. – 2.	5–10 gr.	0.3 – 0.6	1– 2 gr.	0.06 –0.13
Citric	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	10–20 gr.	0.6 –1.3
Gallic	½– 2 dr.	2. – 8.	10–30 gr.	0. 6 – 2.	5–15 gr.	0.3 –1.
Hydrobromic Dil.	2– 6 dr.	8. –24.	1– 2 dr.	4. – 8.	20–60 m.	1.3 –4.
Hydrochloric Dil.	½– 4 dr.	2. –15.	10–30 m.	0.6 – 2.	3–10 m.	0.2 –0.6
Hydrocyanic Dil.	20–60 m.	1.3 – 4.	2–10 m.	0.13 – 0.6	1– 5 m.	0.06 –0.3
Lactic	1– 2 dr.	4. – 8.	10–40 m.	0.6 – 2.6	5–20 m.	0.3 –1.3
Nitric Dil.	1– 4 dr.	4. –15.	5–30 m.	0.3 – 2.	3–15 m.	0.2 –1.
Nitro-hydrochloric Dil.	1–2 dr.	4. – 8.	5–20 m.	0.3 – 1.3	2–10 m.	0.13 –0.6

Phosphoric Dil.	1– 6 dr.	4.	–24.	10–40 m.	0.6	– 2.6	5–30 m.	0.3	–2.
Salicylic	1– 6 dr.	4.	–24.	15–30 gr.	1.	– 2.	5–15 gr.	0.3	–1.
Sulphuric Arom.	2– 8 dr.	8.	–30.	20–60 m.	1.3	– 4.	5–15 m.	0.3	–1.
Sulphuric Dil.	2– 6 dr.	8.	–24.	30–60 m.	2.	– 4.	5–15 m.	0.3	–1.
Sulphurous	2– 8 dr.	8.	–30.	20–60 m.	1.3	– 4.	5–15 m.	0.3	–1.
Tannic	½– 4 dr.	2.	–15.	½– 2 dr.	2.	– 8.	1–20 gr.	0.06	–1.3
Tartaric	2– 8 dr.	8.	–30.	15–60 gr.	1.	– 4.	5–20 gr.	0.3	–1.3
Aconite Powd.	5–15 gr.	0.3	– 1.	$\frac{1}{5}$– 2 gr.	0.013	– 0.13	$\frac{1}{10}$– 1 gr.	0.006	–0.06
Extract	2– 5 gr.	0.13	– 0.3	$\frac{1}{10}$–½ gr.	0.006	– 0.03	$\frac{1}{10}$– $\frac{1}{3}$ gr.	0.006	–0.02
Extr. Fld.	5–15 m.	0.3	– 1.	1– 2 m.	0.013	– 0.13	$\frac{1}{10}$– 1 m.	0.006	–0.06
Tinct. (1890)	10–30 m.	0.6	– 2.	1– 4 m.	0.06	– 0.25	½– 2 m.	0.03	–0.13
Tinct. (1905)	½–1½ dr.	2.	– 6.	4–15 m.	0.25	– 1.	2– 8 m.	0.13	–0.5
Tinct. Fleming's	5–15 m.	0.3	– 1.	½– 2 m.	0.03	– 0.13	¼– 1 m.	0.016	–0.06
Aconitine	$\frac{1}{30}$–$\frac{1}{10}$ gr.	0.002	– 0.006	$\frac{1}{100}$–$\frac{1}{50}$ gr.	0.0006	– 0.001	$\frac{1}{200}$–$\frac{1}{55}$ gr.	0.0003	–0.001
Adrenalin Sol.	1–1000–1–4 dr.	4.	–15.	½– 1 dr.	2.	– 4.	10–30 m.	0.6	–2.
Alcohol	1– 2 oz.	30.	–60.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	–4.
Aloes	2–10 dr.	8.	–40.	1– 4 dr.	4.	–15.	2–60 gr.	0.13	–4.

In general the dose for the cat is ½ the dose for the dog. Hypodermics of alkaloids usually ½ the dose by mouth.

	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Alion	2– 3 dr.	8. – 12.	10–30 gr.	0.6 – 2.	1– 5 gr.	0.06 – 0.3
Alum	1– 3 dr.	4. – 12.	½– 1 dr.	2. – 4.	5–15 gr.	0.3 – 1.
Ammonia Water	1– 2 dr.	4. – 8.	½– 1 dr.	2. – 4.	2–10 m.	0.13 – 0.6
Spirits	½–1½ oz.	15. – 45.	1– 2 dr.	4. – 8.	5–30 m.	0.3 – 2.
Spt. Arom.	½–1½ oz.	15. – 45.	1– 2 dr.	4. – 8.	5–60 m.	0.3 – 4.
Ammonium Acetate Sol. (Spt. Minderus)	2– 6 oz.	60. –180.	½– 1 oz.	15. –30.	1– 4 dr.	4. –15.
Benzoate	½– 8 dr.	2. – 30.	10–60 gr.	0.6 – 4.	5–15 gr.	0.3 – 1.
Bromide	½– 2 oz.	15. – 60.	⅓– 2 dr.	1.3 – 8.	10–60 gr.	0.6 – 4.
Carbonate	1– 3 dr.	4. – 12.	15–40 gr.	1. – 2.6	1– 8 gr.	0.06 – 0.5
Chloride	1– 4 dr.	4. – 15.	30–60 gr.	2. – 4.	2–15 gr.	0.13 – 1.
Iodide	1– 4 dr.	4. – 15.	30–60 gr.	2. – 4.	2–10 gr.	0.13 – 0.6
Phosphate	1– 4 dr.	4. – 15.	30–60 gr.	2. – 4.	2–20 gr.	0.13 – 1.3
Valerianate	½– 2 dr.	2. – 8.	10–20 gr.	0.6 – 1.3	1– 5 gr.	0.06 – 0.3
Amyl Nitrite	5–15 m.	0.3 – 1.	1– 7 m.	0.06 – 0.5	½– 3 m.	0.03 – 0.2
Amylum Iodatum (Iodized starch)	½– 2 oz.	15. – 60.	½– 2 dr.	2. – 8.	3–30 gr.	0.2 – 2.
Anise Seed	½– 1 oz.	15. – 30.	2– 3 dr.	8. –12.	20–50 gr.	1.3 – 3.3
Spirit	½– 1 oz.	15. – 30.	2– 4 dr.	8. –15.	1– 2 dr.	4. – 8.
Antimony Black	1– 3 dr.	4. – 12.	5–20 gr.	0.3 – 1.3	⅙–1½ gr.	0.01 – 0.1

Antimon. et Potass. Tartras (Tartar Emetic) Emetic					4–10 gr.	0.25	–	0.6	1– 4 gr.	0.6	–	0.25
Expectorant	½– 2	dr.	2.	– 8.	½– 3 gr.	0.03	–	0.2	$\frac{1}{10}$–¼ gr.	0.006	–	0.016
Antipyrin	1– 3	dr.	4.	– 12.	5–20 gr.	0.3	–	1.3	1– 8 gr.	0.06	–	0.5
Apomorphine Hydrochloride	¼–½	gr.	0.016–	0.032	$\frac{1}{15}$– ⅓ gr.	0.004	–	0.021	$\frac{1}{30}$– ⅕ gr.	0.002	–	0.013
Areca Nu	½– 1	oz.	15.	– 30.	½–1½ dr.	2.	–	6.	15–60 gr.	1.	–	4.
Arecoline Hydrobromide (Hypodermic)	½–1½	gr.	0.30	– 0.1								
Arnica Flowers	½– 1	oz.	15.	– 30.	1– 2 dr.	4.	–	8.	10–20 gr.	.6	–	1.3
Tincture	½– 1	oz.	15.	– 30.	1– 2 dr.	4.	–	8.	15–40 m.	1.	–	2.6
Root	½– 1	oz.	15.	– 30.	1– 2 dr.	4.	–	8.	10–20 gr.	0.6	–	1.3
Fluid Ext.	¼–½	oz.	8.	– 15.	½– 1 dr.	2.	–	4.	5–10 gr.	0.3	–	0.6
Tincture	½– 1	oz.	15.	– 30.	1– 2 dr.	4.	–	8.	10–20 m.	0.6	–	1.3
Arsenic	3– 6	gr.	0.2	– 0.4	½– 1 gr.	0.03	–	0.06	$\frac{1}{64}$–$\frac{1}{12}$ gr.	0.001	–	0.005
Arsenic Iodide	2– 6	gr.	0.13	– 0.4	$\frac{1}{7}$–¾ gr.	0.009	–	0.045	$\frac{1}{600}$–$\frac{1}{100}$ gr.	0.001	–	0.006
Liq. Ac. Arsenosi (Sol. Arsen. Acid)	2– 8	dr.	8.	– 30.	½– 1 dr.	2.	–	4.	2–10 m.	0.13	–	0.6
Liq. Arseni et Hydrargyri Iodidi (Donovan's Sol.)	2– 8	dr.	8.	– 30.	½– 1 dr.	2.	–	4.	2–10 m.	0.13	–	0.6
Liq. Potass. Ars (Fowler's Sol.)	2– 8	dr.	8.	– 30.	½– 1 dr.	2.	–	4.	2–10 m.	0.13	–	0.6

In general the dose for the cat is ½ the dose for the dog. Hypodermics of alkaloids usually ½ the dose by mouth.

	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Arsenic						
Liq. Sodii Arsenatis (Pearson's Sol.)	2– 8 dr.	8. – 30.	½– 1 dr.	2. – 4.	2–10 m.	0.13 – 0.6
Asafetida	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–15 gr.	0.3 – 1.
Tincture	2– 4 oz.	60. –120.	2– 4 dr.	8. – 15.	½– 1 dr.	2. – 4.
Asclepias (Pleurisy Root)	3– 4 dr.	12. – 15.	1– 2 dr.	4. – 8.	½– 1 dr.	2. – 4.
Aspidium, F. E.	3– 6 dr.	12. – 24.	1– 2 dr.	4. – 8.	15–60 m.	1. – 4.
Oleoresin	3– 6 dr.	12. – 24.	1– 2 dr.	4. – 8.	15–60 m.	1. – 4.
Atropine Sulph.	½–1½ gr.	0.03 – 0.1	$\frac{1}{15}$–$\frac{1}{12}$ gr.	0.004 – 0.005	$\frac{1}{100}$–$\frac{1}{20}$ gr.	0.0006– 0.003
Balsam Copaiba	½– 2 oz.	15. – 60.	1– 2 dr.	2. – 8.	$\frac{1}{6}$– 1 dr.	0.6 – 4.
Peru	½– 2 oz.	15. – 60.	1– 2 dr.	4. – 8.	$\frac{1}{6}$–½ dr.	0.6 – 2.
Tolu	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3
Barium Chloride	1– 2 dr.	4. – 8.	2– 5 gr.	0.13 – 0.3	$\frac{1}{2}$– 1 gr.	0.02 – 0.06
(Intravenous)	10–30 gr.	0.6 – 2.				
Belladonna Leaves,						
Powd.	¼– 1 oz.	8. – 30.	10–20 gr.	0.6 – 1.3	2– 5 gr.	0.13 – 0.3
Ext. alc.	10–20 gr.	0.6 – 1.3	2– 4 gr.	0.13 – 0.25	$\frac{1}{8}$–½ gr.	0.008 – 0.03
Tinct.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	15–30 m.	1. – 2.
Belladonna Root						
Fld. Ext.	1– 2 dr.	4. – 8.	10–15 m.	0.6 – 1.	1– 3 m.	0.06 – 0.2
Benzoin, Tinct.	½– 1 oz.	15. – 30.	1– 3 dr.	4. – 12.	½– 1 dr.	2. – 4.

Bismuth												
Subcarbonate	½– 4	dr.	2.	– 15.	½– 1	dr.	2.	– 4.	10–30	gr.	0.6	– 2.
Subnitrate	½– 4	dr.	2.	– 15.	½– 1	dr.	2.	– 4.	10–30	gr.	0.6	– 2.
Brandy	2– 4	oz.	60.	–120.	1– 2	oz.	30.	– 60.	1– 4	dr.	4.	–15.
Brucine	1– 2	gr.	0.065–	0.13	$\frac{1}{32}$–$\frac{1}{8}$	gr.	0.002	– 0.008	$\frac{1}{64}$–$\frac{1}{16}$	gr.	0.001	– 0.004
Bryonia Tinct.	½– 1	oz.	15.	– 30.	½– 1	dr.	2.	– 4.	5–30	m.	0.3	– 2.
Buchu Leaves	1– 2	oz.	30.	– 60.	½– 1	dr.	2.	– 4.	10–30	gr.	0.6	– 2.
Fld. Ext.	1– 2	oz.	30.	– 60.	½– 1	dr.	2.	– 4.	5–30	m.	0.3	– 2.
Buckthorn Syrup (Rhamnus Catharticus)					2– 4	oz.	60.	–120.	1– 2	oz.	30.	–60.
Caffeine Citrate	15–30	gr.	1.	– 2.	4– 8	gr.	0.25	– 0.5	1– 6	gr.	0.06	– 4.
Cajuput, Oil	½– 2	dr.	2.	– 8.	3–10	m.	0.2	– 0.6	1– 5	m.	0.06	– 0.3
Calabar Bean (Physostigma)	5–15	gr.	0.3	– 1.	2– 4	gr.	0.13	– 0.25	½– 1	gr.	0.03	– 0.06
Calamus	1– 2	oz.	30.	– 60.	2– 3	dr.	8.	– 12.	15–60	gr.	1.	– 4.
Fld. Ext.	1– 2	oz.	30.	– 60.	2– 3	dr.	8.	– 12.	15–60	m.	1.	– 4
Calcium Bromide	2– 4	dr.	8.	– 15.	½– 1	dr.	2.	– 4.	5–20	gr.	0.3	– 1.3
Carb. Precip.	1– 2	oz.	30.	– 60.	2– 4	dr.	8.	– 15.	10–60	gr.	0.6	– 4.
Chloride	1– 2	dr.	4.	– 8.	10–30	gr.	0.6	– 2.	1–10	gr.	0.06	– 0.6
Hypophosphite	1– 3	dr.	4.	– 12.	10–30	gr.	0.6	– 2.	2– 5	gr.	0.13	– 0.3

In general a dose for the cat is ½ the dose for the dog. Hypodermics of alkaloids usually ½ the dose by mouth.

	HORSE AND COW				SHEEP AND SWINE				DOG			
	Apoth.		Metric.		Apoth.		Metric.		Apoth.		Metric	
Calcium Iodide	½– 1	dr.	2.	– 4.	5–10	gr.	0.3	– 0.6	1– 3	gr.	0.06	– 0.2
Calcium Phosphate Precip.	2– 4	dr.	8.	– 15.	1– 2	dr.	4.	– 8.	5–20	gr.	0.3	– 1.3
Calcium Sulphide	10–60	gr.	0.6	– 4.	1–10	gr.	0.06	– 0.6	½– 2	gr.	0.03	– 0.13
Calomel	½– 1	dr.	2.	– 4.	2–10	gr.	0.13	– 0.6	1– 5	gr.	0.06	– 0.3
Calendula Tinct.	½– 1	oz.	15.	– 30.	1– 2	dr.	4.	– 8.	15–30	m.	1.	– 2.
Calumba	½– 1	oz.	15.	– 30.	1– 2	dr.	4.	– 8.	15–30	gr.	0.3	– 2.
Fld. Ext.	½– 1	oz.	15.	– 30.	1– 2	dr.	4.	– 8.	5–30	m.	0.3	– 2.
Tinct.	2– 4	oz.	60.	–120.	3– 6	dr.	12.	– 24.	1– 4	dr.	4.	–15.
Calx Chlorata	½– 2	dr.	2.	– 8.	5–10	gr.	0.3	– 0.6	1– 3	gr.	0.06	– 0.2
Camphor	1– 3	dr.	4.	– 12.	15–60	gr.	1.	– 4.	3–10	gr.	0.2	– 0.6
Monobrom	1– 4	dr.	4.	– 15.	5–20	gr.	0.3	– 1.3	2–10	gr.	0.13	– 0.6
Spirits	1– 2	oz.	30.	– 60.	2– 4	dr.	8.	– 15.	½– 1	dr.	2.	– 4.
Cannabis Indica (Indian Hemp)												
Ext.	1– 2	dr.	4.	– 8.	2–10	gr.	0.13	– 0.6	¼– 1	gr.	0.016	– 0.06
Fld. Ext.	2– 6	dr.	8.	– 24.	15–60	m.	1.	– 4.	3–10	m.	0.2	– 0.6
Tinct.	4–12	dr.	15.	– 45.	½– 1	dr.	2.	– 4.	15–30	m.	1.	– 2.
Cantharides (Spanish Fly)	5–20	gr.	0.3	– 1.3	4– 8	gr.	0.25	– 0.5	1– 2	gr.	0.06	– 0.13
Tinct. (1890)	½– 1	dr.	2.	– 4.	10–30	m.	0.6	– 2.	5–15	m.	0.3	– 1.
Tinct. (1905)	15–30	m.	1.	– 2.	5–15	m.	0.3	– 1.	3– 8	m.	0.2	– 0.5

Capsicum	20–60	gr.	1.3	– 4.	5–15 m.	0.3	– 1.	1– 8 gr.	0.06	– 0.5
Fld. Ext.	20–60	m.	1.3	– 4.	5–15 m.	0.3	– 1.	1– 8 m.	0.06	– 0.5
Oleoresin	10–30	m.	0.6	– 2.	2– 8 m.	0.13	– 0.5	¼– 1 m.	0.016	– 0.06
Tinct. (1890)	2– 4	dr.	8.	– 15.	20–60 m.	1.3	– 4.	5–30 m.	0.3	– 2.
Tinct. (1905)	1– 2	dr.	4.	– 8.	10–30 m.	0.6	– 2.	3–15 m.	0.2	– 1.
Carbo Animalis	½– 2	oz.	15.	– 60.	1– 3 dr.	4.	– 12.	10–60 gr.	0.6	– 2.
Ligni (Charcoal)	½– 1	oz.	15.	– 30.	1– 2 dr.	4.	– 8.	10–40 gr.	0.6	– 2.6
Carbon Bisulphide	2– 4	dr.	8.	– 15.	½– 1 dr.	2.	– 4.			
Cardamom	1– 2	oz.	30.	– 60.	2– 3 dr.	8.	– 12.	10–30 gr.	0.6	– 2.
Fld. Ext.	1– 2	oz.	30.	– 60.	2– 3 dr.	8.	– 12.	10–30 m.	0.6	– 2.
Comp. Tinct.	2– 3	oz.	60.	– 90.	3– 6 dr.	12.	– 24.	1– 2 dr.	4.	– 8.
Tinct.	2– 3	oz.	60.	– 90.	3– 6 dr.	12.	– 24.	1– 2 dr.	4.	– 8.
Cascara Sagrada	2–12	dr.	8.	– 45.	10–60 gr.	0.6	– 4.	5–30 gr.	0.3	– 2.
Fld. Ext.	2–12	dr.	8.	– 45.	10–60 m.	0.6	– 4.	5–30 m.	0.3	– 2.
Cascarilla Bark Fld. Ext.	½– 1	oz.	15.	– 30.	1– 2 dr.	4.	– 8.	10–30 gr.	0.6	– 2.
Castanea Fld Ext. (Horse Chestnut)	1– 2	oz.	30.	– 60.	2– 4 dr.	8.	– 15.	½– 1 dr.	2.	– 4.
Castor Oil	1 pt.		500.		2– 4 oz.	60.	–120.	1– 2 dr.	4.	– 8.

In general the dose for the cat is ½ the dose for the dog. Hypodermics of alkaloids usually ½ the dose by mouth.

	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Catechu	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–30 gr.	0.3 – 2.
Fld. Ext.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–30 m.	0.3 – 2.
Comp. Tinct.	1– 2 oz.	30 – 60.	2– 4 dr.	8. –15.	½– 2 dr.	2. – 8.
Caulophyllin (Blue Cohosh)	½–1½ dr.	2. – 6.	4– 8 gr.	0.25 – 0.5	1– 4 gr.	0.06 – 0.25
Cerium Oxalate	½–1½ dr.	2. – 6.	5–10 gr.	0.3 – 0.6	2– 5 gr.	0.13 – 0.3
Chalk, Comp. Powd	½– 2 oz.	15. – 60.	½– 2 dr.	2. – 8.	10–60 gr.	0.6 – 4.
Prepared	1– 2 oz.	30. – 60.	2– 4 dr.	8. –15.	10–60 gr.	0.6 4.
Chamomile	1– 2 oz.	30. – 60.	1– 2 dr.	4. – 8.	5–30 gr.	0.3 – 2.
Charcoal	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	10–40 gr.	0.6 – 2.6
Chaulmoogra Oil	½– 3 dr.	2. – 12.	5–30 m.	0.3 – 2.	2–10 m.	0.13 – 0.6
Chenopodium Oil	1½– 3 dr.	6. – 12.	10–20 m.	0.6 – 1.3	5–10 m.	0.3 – 0.6
Chimaphila, F. E. (Pipsissewa)	1– 2 oz.	30. – 60.	1– 4 dr.	4. –15.	½– 2 dr.	2. – 8.
Chloral Hydrate	1– 2 oz.	30. – 60.	1– 2 dr.	4. – 8.	5–20 gr.	0.3 – 1.3
Chloralamide	1– 2 oz.	30. – 60.	1– 2 dr.	4. – 8.	10–30 gr.	0.6 – 2.
Chlorodyne	1–1½ oz.	30. – 45.	1– 2 dr.	4. – 8.	10–30 m.	0.6 – 2.
Chloroform	1– 2 dr.	4. – 8.	20–30 m.	1.3 – 2.	2–20 m.	0.13 – 1.3
Spirit	1– 2 oz.	30. – 60.	2– 4 dr.	8. –15.	½– 1 dr.	2. – 4.
Cimicifuga, (Black Snake Root) Fld. Ext.	2 dr.– 2 oz.	8. – 60.	1– 3 dr.	4. –12.	5–30 m.	0.3 – 2.

Tinct.	1– 3	oz.	30.	– 90.	2– 4	dr.	8.	–15.	10–60	m.	0.6 – 4.
Cinchona Bark	2– 6	dr.	8.	– 24.	1– 4	dr.	4.	–15.	10–60	gr.	0.6 – 4.
Extr.	1– 2	dr.	4.	– 8.	½– 1	dr.	2.	– 4.	5–30	gr.	0.3 – 2.
Fld. Ext.	2– 6	dr.	8.	– 24.	1– 4	dr.	4.	–15.	10–60	m.	0.6 – 4.
Tinct. Comp.	2– 4	oz.	60.	–120.	½– 1	oz.	15.	–30.	½– 4	dr.	2. –15.
Cinchonine Sulphate, Tonic	20–60	gr.	1.3	– 4.	6–15	gr.	0.4	– 1.	1– 3	gr.	0.06 – 0.2
Antipyretic	2– 5	dr.	8.	– 20.	40–50	gr.	2.6	– 3.3	7–15	gr.	0.5 – 1.
Cinchonidine Sulphate	20–60	gr.	1.3	– 4.	6–15	gr.	0.4	– 1.	1– 3	gr.	0.06 – 0.2
Cinnamon	4– 8	dr.	15.	– 30.	1– 2	dr.	4.	– 8.	5–20	gr.	0.3 – 1.3
Oil	½–1½	dr.	2.	– 6.	5–10	m.	0.3	– 0.6	1– 5	m.	0.06 – 0.3
Coca Fld. Ext.	1– 4	oz.	30.	–120.	½– 1	oz.	15.	–30.	10m.–2	dr.	0.6 – 8.
Cocaine Hydrochloride	5–10	gr.	0.3	– 0.6	½–1½	gr.	0.03	– 0.1	⅛–¾	gr.	0. 008– 0.045
Cod Liver Oil (Ol. Morrhuae)	2– 4	oz.	60.	–120.	½– 1	oz.	15.	–30.	1– 3	dr.	4. –12.
Codeine	6–30	gr.	0.4	– 2.	½– 3	gr.	0.03	– 0.2	¼– 2	gr.	0.016 – 0.13
Colchicine	$\frac{1}{6}$–½	gr.	0.01	– 0.03	$\frac{1}{30}$–$\frac{1}{15}$	gr.	0.002–	0.004	$\frac{1}{100}$–$\frac{1}{50}$	gr.	0.0006– 0.0012
Colchicum Root	½– 2	dr.	2.	– 8.	10–20	gr.	0.6	– 1.3	½– 5	gr.	0.03 – 0.3
Fluid Ext.	½– 2	dr.	2.	– 8.	10–20	m.	0.6	– 1.3	½– 5	m.	0.03 – 0.3

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Colchicum Root						
Tinct. (1890)	3– 8 dr.	12. –30.	½– 1 dr.	2. – 4.	10–30 m.	0.6 –2.
Tinct. (1905)	4–12 dr.	15. –45.	1–1½ dr.	4. – 6.	15–45 m.	1. –3.
Wine	3– 8 dr.	12. –30.	½– 1 dr.	2. – 4.	10–30 m.	0.6 –2.
Collargolum						
Intravenous	7–20 gr.	0.5 – 1.3	2– gr.	0.13 – 0.25	1– 2 gr.	0.06 –0.13
Colocynth	1– 3 dr.	4. –12.	6–15 gr.	0.4 – 1.	3– 8 gr.	0.2 –0.5
Colocynthin	½– 1 dr.	2. – 4.	5–10 gr.	0.3 – 0.6	¼– 1 gr.	0.016 –0.06
Condurango, F. E.	½–1½ oz.	15. –45.	½– 1 dr.	2. – 4.	10–30 m.	1.3 –2.
Coniine Hydrobromide	¾–1½ gr.	0.045– 0.1	⅕– ⅖ gr.	0.013– 0.026	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001 –0.002
Conium (Hemlock)	1– 2 dr.	4. – 8.	10–20 gr.	0.6 – 1.3	2– 5 gr.	0.13 –0.3
Ext.	12–24 gr.	0.72 – 1.5	2– 4 gr.	0.13 – 0.25	¼– 1 gr.	0.016 –0.06
Fld. Ext.	1– 2 dr.	4. – 8.	10–20 m.	0.6 – 1.3	2– 5 m.	0.13 –0.3
Convallamarin	10–30 gr.	0.6 – 2.	2– 5 gr.	0.13 – 0.3	$\frac{1}{8}$– $\frac{1}{6}$ gr.	0.008 –0.01
Convallaria, F. E.	1– 2 dr.	4. – 8.	10–20 m.	0.6 – 1.3	5–10 m.	0.3 –0.6
Copaiba	½– 3 oz.	15. –90.	1– 3 dr.	4. –12.	5–30 m.	0.3 –2.
Copper Acetate	1– 2 dr.	4. – 8.	5–20 gr.	0.3 – 1.3	¼– 2 gr.	0.016 –0.13
Arsenite	1– 4 gr.	0.06 – 0.25	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001– 0.002	$\frac{1}{200}$–$\frac{1}{100}$ gr.	0.0003–0.0006
Sulphate	1– 2 dr.	4. – 8.	3–20 gr.	0.3 – 1.3	¼– 2 gr.	0.016 –0.13
Cornus, Fld. Ext.	½– 2 oz.	15. –60.	½– 2 dr.	2. – 8.	10–60 m.	0.6 –1.

Corrosive Sublimate	5– 8	gr.	0.3	– 0.5	1– 2 gr.	0.06	– 0.13	$\frac{1}{30}$–$\frac{1}{8}$ gr.	0.002	–0.008		
Cotton Root Bark as ecbolic	½– 2	oz.	15.	–60.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	–4.		
Creolin	1– 2	dr.	4.	– 8.	10–20 m.	0.6	– 1.3	1– 5 m.	0.06	–0.3		
as anthelmintic	½– 1	oz.	15.	–30.	½– 1 dr.	2.	– 4.	10–20 m.	0.6	–1.3		
Creosote	15–30	m.	1.	– 2.	5–15 m.	0.3	– 1.	½– 2 m.	0.03	–0.13		
Croton Chloral	2– 4	dr.	8.	–15.	15–30 gr.	1.	– 2.	5–10 gr.	0.3	–0.6		
Oil	15–30	m.	1.	– 2.	5–10 m.	0.3	– 0.6	½– 3 m.	0.03	–2.		
Curare	1– 5	gr.	0.06	– 0.3	$\frac{1}{8}$–$\frac{1}{3}$ gr.	0.008	– 0.02	$\frac{1}{32}$– $\frac{1}{6}$ gr.	0.002	–0.01		
Curarine	$\frac{1}{5}$–½	gr.	0.012–	0.03	$\frac{1}{50}$–$\frac{1}{20}$ gr.	0.0012–	0.003	$\frac{1}{100}$–$\frac{1}{40}$ gr.	0.0006–	0.0015		
Cypripedium, Fld. Ext. (Lady Slipper)	2– 6	dr.	8.	–24.	½– 1 dr.	2.	– 4.	10–30 m.	0.6	–2.		
Damiana, Fld. Ext.	½– 1	oz.	15.	–30.	1– 2 dr.	4.	– 8.	10–60 m.	0.6	–4.		
Daturine	½– 1	gr.	0.03	– 0.06	$\frac{1}{60}$–$\frac{1}{10}$ gr.	0.001	– 0.006	$\frac{1}{120}$–$\frac{1}{20}$ gr.	0.000	–0.003		
Diastase	1– 2	dr.	4.	– 8.	15–30 gr.	1.	– 2.	5–15 gr.	0.3	–1.		
Digitalein	$\frac{1}{8}$–¼	gr.	0.008–	0.016	$\frac{1}{40}$–$\frac{1}{20}$ gr.	.0015–	0.003	$\frac{1}{100}$– gr.		–0.0006		
Digitalin	¼–½	gr.	0.016–	0.03	$\frac{1}{30}$–$\frac{1}{10}$ gr.	0.002	– 0.006	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001	–0.002		
Digitalis	10–60	gr.	0.6	– 4.	5–15 gr.	0.3	– 1.	½– 3 gr.	0.03	–0.2		
Ext.	5–10	gr.	0.3	– 0.6	1– 2 gr.	0.06	– 0.13	$\frac{1}{8}$–½ gr.	0.008	–0.03		

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Digitalis						
Fld. Ext.	10–60 m.	0.6 – 4.	5–15 m.	0.3 – 1.	½– 3 m.	0.03 – 0.2
Infusion	2– 6 oz.	60. – 180.	½– 1 oz.	15. – 30.	1– 4 dr.	4. –15.
Tinct. (1890)	2– 4 dr.	8. – 15.	½–1½ dr.	2. – 6.	5–30 m.	0.3 – 2.
Tinct. (1905)	3– 6 dr.	12. – 24.	¾–2½ dr.	3. – 10.	8–45 m.	0.5 – 3.
Dis orea, Fld. Ext. (Wild Yam)	2– 6 dr.	8. – 24.	½– 1 dr.	2. – 4.	15–30 m.	1. – 2.
Diuretin	3– 5 dr.	12. – 20.	15–30 gr.	1. – 2.	10–15 gr.	0.6 – 1.
Donovan's Solution	2– 8 dr.	8. – 30.	½– 1 dr.	2. – 4.	2–10 m.	0.13 – 0.6
Dovers Powder	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–10 gr.	0.3 – 0.6
Dracontium, F. E.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	30–60 m.	2. – 4.
Duboisia, Tinct.	2– 6 dr.	8. – 24.	½– 1 dr.	2. – 4.	5–20 m.	0.3 – 1.3
Dulcamara, F. E.	1– 2 oz.	30. – 60.	2– 3 dr.	8. – 12.	1– 2 dr.	4. – 8.
Echinacea, Powd.	1– 4 dr.	4. – 15.	½– 1 dr.	2. – 4.	5–30 gr.	0.3 – 2.
Fld. Ext.	1– 4 dr.	4. – 15.	½– 1 dr.	2. – 4.	5–30 m.	0.3 – 2.
Elaterin	½– 2 gr.	0.03 – 0.13	$\frac{1}{10}$– $\frac{1}{5}$ gr.	0.006 – 0.013	$\frac{1}{20}$–$\frac{1}{12}$ gr.	0.003 – 0.015
Emetine, Expect.	¼– 2 gr.	0.015– 0.13	$\frac{1}{50}$–$\frac{1}{20}$ gr.	0.0012– 0.003	$\frac{1}{100}$–$\frac{1}{40}$ gr.	0.0006– 0.0015
Emetic			1– 2 gr.	0.065 – 0.13	$\frac{1}{10}$–½ gr.	0.006 – 0.03
Epsom Salts (Lax)	2– 4 oz.	60. – 120.	½– 1 oz.	15. – 30.	1– 4 dr.	4. –15.
(Purg.) cow	1– 2 lb.	500. –1000.	4– 6 oz.	120. –180. sheep.		

ot	½– 1 oz.	15.	–	30.	1– 2 dr.	4.	–	8.	½– 1 dr.	2.	–	4.
Ext.	20–60 gr.	1.3	–	4.	10–20 gr.	0.6	–	1.3	2–10 gr.	0.13	–	0.6
Fld. Ext.	½– 1 oz.	15.	–	30.	1– 2 dr.	4.	–	8.	½– 1 dr.	2.	–	4.
Tinct.	½– 2 oz.	15.	–	60.	1– 4 dr.	4.	–	15.	½– 2 dr.	2.	–	8.
Ergotin (Hypo.)	2– 4 gr.	0.13	–	0.25	½– 1 gr.	0.03	–	0.06	¼– ½ gr.	0.015	–	0.03
Eriodictyon, F. E.	½– 2 oz.	15.	–	60.	½– 2 dr.	2.	–	8.	15–60 m.	1.	–	4.
Eserine Sulphate or Salicylate (Hypodermic)	1–1½ gr.	0.06	–	0.1	1/15– ⅕ gr.	0.004	–	0.013	1/100–⅓0 gr.	0.0006	–	0.002
Ether	1– 2 oz.	30.	–	60.	2– 4 dr.	8.	–	15.	10–60 m.	0.6	–	4.
Spirit	1– 2 oz.	30.	–	60.	2– 4 dr.	8.	–	15.	10–60 m.	0.6	–	4.
Nitrous, Spirit (Sweet Spt. Nitre)	1– 4 oz.	30.	–	120.	2– 4 dr.	8.	–	15.	10–60 m.	0.6	–	4.
Eucalyptus, F. E.	2– 3 oz.	60.	–	90.	2– 6 dr.	8.	–	24.	½– 2 dr.	2.	–	8.
Oil	2– 4 dr.	8.	–	15.	20–50 m.	1.3	–	3.3	5–20 m.	0.3	–	1.3
Eucalyptol	1– 3 dr.	4.	–	12.	15–40 m.	1.	–	2.6	5–15 m.	0.3	–	1.
Eupatorium, F. E.	½– 2 oz.	15.	–	60.	½– 2 dr.	2.	–	8.	10–60 m.	0.6	–	4.
Exalgin	½– 2 dr.	2.	–	8.	5–15 gr.	0.3	–	1.	1– 6 gr.	0.06	–	0.4
Fel. Bovis (Ox Gall)	2– 5 dr.	8.	–	20.	10–30 gr.	0.6	–	2.	5–15 gr.	0.3	–	1.
Fennel	1– 2 oz.	30.	–	60.	2– 3 dr.	8.	–	12.	10–20 gr.	0.6	–	1.3
Fenugreek	1– 2 oz.	30.	–	60.	2– 3 dr.	8.	–	12.	10–30 gr.	0.6	–	2.
Filix Mas. (Male Fern)	2 dr.– 2 oz.	8.	–	60.	1– 3 dr.	4.	–	12.	5m.– 1 dr.	0.3	–	4.

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	HORSE AND COW			SHEEP AND SWINE			DOG		
	Apoth.	Metric.		Apoth.	Metric.		Apoth.	Metric.	
Fowler's Solution	2– 8 dr.	8.	– 30.	½– 1 dr.	2.	– 4.	2–10 m.	0.13	– 0.6
Frangula, Fld. Ext.	½– 2 oz.	15.	– 60.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	– 4.
Gall Nuts, Powd.	4– 8 dr.	15.	– 30.	30–60 gr.	2.	– 4.	5–10 gr.	0.3	– 0.6
Gamboge	½– 1 oz.	15.	– 30.	20–60 gr.	1.3	– 4.	5–10 gr.	0.3	– 0.6
Gaultheria, Oil (Wintergreen)	2 dr.– 1 oz.	8.	– 30.	½– 2 dr.	2.	– 8.	5–15 m.	0.3	– 1.
Gelsemine	¼– ½ gr.	0.016	– 0.03	$\frac{1}{20}$–$\frac{1}{12}$ gr.	0.003	– 0.005	$\frac{1}{60}$–$\frac{1}{20}$ gr.	0.001	– 0.003
Gelsemium	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	5–10 gr.	0.3	– 0.6
Fld. Ext.	1– 2 dr.	4.	– 8.	10–20 m.	0.6	– 1.3	5–10 m.	0.3	– 0.6
Tinct.	½– 2 oz.	15.	– 60.	1– 3 dr.	4.	–12.	15–60 m.	1.	– 4.
Gentian	½– 1 oz.	15.	– 30.	1– 2 dr.	4.	– 8.	5–30 gr.	0.3	– 2.
Fld. Ext.	½– 1 oz.	15.	– 30.	1– 2 dr.	4.	– 8.	5–30 m.	0.3	– 2.
Tinct. Comp.	1– 4 oz.	30.	–120.	½– 1 oz.	15.	–30.	1– 4 dr.	4.	–15.
Geranium, Fld. Ext.	2– 8 dr.	8.	– 30.	½– 1 dr.	2.	– 4.	15–30 m.	1.	– 2.
Ginger	2– 8 dr.	8.	– 30.	1– 2 dr.	4.	– 8.	5–30 gr.	0.3	– 2.
Fld. Ext.	2– 8 dr.	8.	– 30.	1– 2 dr.	4.	– 8.	5–30 m.	0.3	– 2.
Oleoresin	10–20 m.	0.6	– 1.3	3– 6 m.	0.2	– 0.4	½– 1 m.	0.03	– 0.6
Tinct.	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	10–60 m.	0.6	– 4.
Glauber's Salts (Horse)	½– 1 lb.	250.	–500.						
(Cow)	1–1½ lb.	500.	–750.	½– 2 oz.	15.	–60.	1– 4 dr.	4.	–15.
Glonoin (Nitroglycerin)	⅕– ½ gr.	0.013	– 0.03	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001	– 0.002	$\frac{1}{120}$–$\frac{1}{60}$ gr.	0.0005	– 0.001

Glycerin	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	½– 1 dr.	2.	– 4.
Glycyrrhiza (Liquorice Root)	½– 1 oz.	15.	– 60.	1– 4 dr.	4.	–15.	10–60 gr.	0.6	– 4.
Gossypium, F. E.	2– 8 dr.	8.	– 30.	½– 2 dr.	2.	– 8.	15–45 m.	1.	– 3.
Granatum, F. E.	½– 2 oz.	15.	– 30.	1– 3 dr.	4.	–12.	½– 2 dr.	2.	– 8.
Guaiacol	1– 2 dr.	4.	– 8.	3–10 m.	0.2	– 0.6	½– 2 m.	0.03	– 0.13
Guaiacum Tinct. Ammon.	1– 3 oz.	30.	– 90.	1– 4 dr.	4.	–15.	3–30 m.	0.2	– 2.
Guarana, Fld. Ext.	2– 8 dr.	8.	– 30.	½– 1 dr.	2.	– 4.	10–30 m.	0.6	– 2.
Gum Arabic.	2– 3 oz.	60.	– 90.	½– 1 oz.	15.	–30.	20–40 gr.	1.3	– 2.6
Tragacanth	2– 3 oz.	60.	– 90.	½– 1 oz.	15.	–30.	20–40 gr.	1.3	– 2.6
Hamamelis, F. E.	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	½– 2 dr.	2.	– 8.
Helleborus Niger, Fld. Ext.	1– 4 dr.	4.	– 15.	10–30 m.	0.6	– 2.	5–15 m.	0.3	– 1.
Hematoxylin, Ext.	½– 4 dr.	2.	– 15.	20–60 gr.	1.3	– 4.	5–15 gr.	0.3	– 1.
Fld. Ext.	½–1½ oz.	15.	– 45.	1½– 3 dr.	6.	–12.	15–45 m.	1.	– 3.
Heroin	½– 2 gr.	0.03	– 0.13	⅛–¼ gr.	0.008– .016		1/30–⅛ gr.	0.002	– 0.008
Homatropin	3– 6 gr.	0.2	– 0.4	⅔ gr.		– 0.04	⅓ gr.		– 0.02
Humulus, F. E.	1– 4 dr.	4.	– 15.	15–30 m.	1.	– 2.	5–15 m.	0.3	– 1.
Tinct.	1– 4 oz.	30.	–120.	1– 4 dr.	4.	–15.	½– 2 dr.	2.	– 8.

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Hydrastin	15–30 gr.	1. – 2.	5–10 gr.	0.3 – 0.6	3– 5 gr.	0.2 –0.3
Hydrastine Hydrochloride	1– 2 gr.	0.06 – 0.13	$\frac{1}{6}$–$\frac{1}{3}$ gr.	0.01 – 0.02	$\frac{1}{12}$– $\frac{1}{6}$ gr.	0.005 –0.01
Hydrastis (Golden Seal)	2 dr.– 1 oz.	8. –30.	1– 2 dr.	4. – 8.	5–60 gr.	0.3 –4.
Fld. Ext.	2 dr.– 1 oz.	8. –30.	1– 2 dr.	4. – 8.	5–60 m.	0.3 –4.
Glycerite	2 dr.– 1 oz.	8. –30.	1– 4 dr.	4. –15.	5–60 m.	0.3 –4.
Tinct.	1– 2 oz.	30. –60.	1– 4 dr.	4. –15.	$\frac{1}{2}$– 2 dr.	2. –8.
Hydrogen Dioxide or Peroxide	$\frac{1}{2}$– 2 oz.	15. –60.	1– 4 dr.	4. –15.	15 m. 2 dr.	1. –8.
Hyoscine Hydrobromide	$\frac{1}{200}$–$\frac{1}{100}$ gr.	0.003– 0.006	$\frac{1}{600}$–$\frac{1}{300}$ gr.	0.001– 0.002	$\frac{1}{1500}$–$\frac{1}{1000}$ gr.	.0004–0.0006
Hyoscyamine Hydrobrom or Sulphate	1– 2 gr.	0.06 – 0.013	$\frac{1}{200}$– $\frac{1}{5}$ gr.	0.003– 0.013	$\frac{1}{600}$–$\frac{1}{300}$ gr.	0.001 –0.002
Hyoscyamus (Henbane)	$\frac{1}{2}$– 1 oz.	15. –30.	$\frac{1}{2}$– 1 dr.	2. – 4.	5–15 gr.	0.3 –1.
Ext.	20–60 gr.	1.3 – 4.	4– 8 gr.	0.25 – 0.5	$\frac{1}{2}$– 2 gr.	0 03 –0.13
Fld. Ext.	$\frac{1}{2}$– 1 oz.	15. –30.	$\frac{1}{2}$– 1 dr.	2. – 4.	5–15 m.	0.3 –1.
Tinct.	1– 3 oz.	30. –90.	2– 4 dr.	8 –15.	1– 2 dr.	4. –8.

Hypophosphites, Comp. Syr.	1– 2 oz.	30.	–60.	2– 3 dr.	8.	–12.	1 dr.		4.
Ichthyol	1– 3 dr.	4.	–12.	10–20 gr.	0.6	– 1.3	2–10 gr.	0.13	–0.6
Ignatia, Fld. Ext.	½– 1 dr.	2.	– 4.	20–40 m.	1.3	– 2.6	¼– 5 m.	0.016	–0.3
Iodine	½– 1 dr.	2.	– 4.	10–20 gr.	0.6	– 1.3	2– 5 gr.	0.13	–0.3
Comp. Sol. (Lugol's)	2– 4 dr.	8.	–15.	20–40 m.	1.3	– 2.6	2–10 m.	0.13	–0.6
Tinct.	2– 4 dr.	8.	–15.	20–40 m.	1.3	– 2.6	2–10 m.	0.13	–0.6
Iodoform	½– 1 dr.	2.	– 4.	10–20 gr.	0.6	– 1.3	2– 8 gr.	0.13	–0.5
Ipecac, Expect.	1– 2 dr.	4.	– 8.	sheep ½–1 dr.	2.	– 4.	½– 2 gr.	0.03	–0.13
Emetic				pig ½ dr.		– 2.	16–30 gr.	1.	–2.
Fld. Ext.	1– 2 dr.	4.	– 8.	15–30 m.	1.	– 2.	½– 2 m.	0.03	–0.13
Iron and Ammonium Citrate	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	5–10 gr.	0.3	–0.6
Carb. Sacch.	1– 2 dr.	4.	– 8.	20–30 gr.	1.3	– 2.	1– 5 gr.	0.06	–0.3
Chloride, Sol.	2– 4 dr.	8.	–15.	10–20 m.	0.6	– 1.3	2–10 m.	0.13	–0.6
Tinct.	1– 2 oz.	30.	–60.	20–60 m.	1.3	– 4.	5–30 m.	0.3	–2.
Iodide Syr.	1– 4 dr.	4.	–15.	10–30 m.	0.6	– 2.	5–10 m.	0.3	–0.6
and Quinine Cit.	1– 4 dr.	4.	–15.	10–30 gr.	0.6	– 2.	3–10 gr.	0.3	–0.6
Reduced	1– 2 dr.	4.	– 8.	20–30 gr.	1.3	– 2.	1– 5 gr.	0.06	–0.3
and Strych. Cit.	10–15 gr.	0.6	– 1.	2– 4 gr.	0.13	– 0.25	1– 2 gr.	0.06	–0.13

In general the dose for the cat is ½ the dose for the dog. Hypodermics of alkaloids usually ½ the dose by mouth.

	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Iron						
Sulphate	1– 2 dr.	4. – 8.	20–30 gr.	1.3 – 2.	1– 5 gr.	0.06 – 0.3
Jaborandi	2– 4 dr.	8. – 15.	½– 1 dr.	2. – 4.	–60 gr.	0.3 – 4.
Fld. Ext.	2– 4 dr.	8. – 15.	½– 1 dr.	2. – 4.	5–60 m.	0.3 – 4.
Jalap			(Pig) 2– 4 dr.	8. – 15.	1– 2 dr.	4. – 8.
Fld. Ext.			2– 4 dr.	8. – 15.	1– 2 dr.	4. – 8.
Resin			½– 1 dr.	2. – 4.	15–30 gr.	1. – 2.
Jambul	1– 3 dr.	4. – 12.	10–20 gr.	0.6 – 1.3	5–10 gr.	0.3 – 0.6
Juniper Oil	1– 2 dr.	4. – 8.	10–30 m.	0.6 – 2.	2–10 m.	0.13 – 0.6
Comp. Spt.	2– 4 oz.	60. –120.	½– 1 oz.	15. – 30	1– 4 dr.	4. –15.
Kamala	½– 1 oz.	15. – 30.	1– 3 dr.	4. – 12.	½– 2 dr.	2. – 8.
F. Ext.	½– 1 oz	15. – 30.	1– 3 dr.	4. – 12.	½– 2 dr.	2. – 8.
Kava-kava, F. E.	½– 1 oz.	15. – 30.	1– 3 dr.	4. – 12.	15–60 m.	1. – 4.
Kino,	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–30 gr.	0.3 – 2.
Fld. Ext.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–30 m.	0.3 – 2.
Tinct.	1– 2 oz.	30. – 60.	1– 3 dr.	4. – 12.	½– 2 dr	2. – 8.
Koussin					5–40 gr	0.3 – 2.6
Kousso	½– 2 oz.	15. – 60.	1– 3 dr.	4. – 12.	½– 2 dr.	2. – 8.
Fld. Ext.	½– 2 oz.	15. – 60.	1– 3 dr.	4. – 12.	½– 2 dr.	2. – 8.

Krameria	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–30 gr.	0.3 – 2.
Ext.	2– 3 dr.	8. – 12.	20–40 gr.	1.3 – 2.6	5–10 gr.	0.3 – 0.6
Fld. Ext.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–30 gr.	0.3 – 2.
Tinct.	1– 2 oz.	30. – 60.	2– 6 dr.	8. – 24.	½– 2 dr.	2. – 8.
Lactopeptine	1– 2 dr.	4. – 8.	10–30 gr.	0.6 – 2.	5–15 gr.	0.3 – 1.
Lactucarium, F. E.	2– 8 dr.	8. – 30.	15–60 m.	1. – 4.	8–30 m.	0.5 – 2.
Laudanum	½– 2 oz.	15. – 60.	1– 4 dr.	4. – 15.	2–30 m.	0.13 – 2.
Lead Acetate	½– 1 dr.	2. – 4.	15–20 gr.	1. – 1.3	1– 2 gr.	0.06 – 0.3
Lemon Oil	½– 1 dr.	2. – 4.	2–10 m.	0.13 – 0.6	1– 5 m.	0.06 – 0.3
Lime Chlorinated	½– 2 dr.	2. – 8.	5–20 gr.	0.3 – 1.3	1– 3 gr.	0.06 – .2
Sulphurated	10–40 gr.	0.6 – 2.6	3–10 gr.	0.2 – 0.6	$\frac{1}{10}$– 2 gr.	0.006– 0.13
Water	4– 6 oz.	120. –180.	1– 2 oz.	30. – 60.	1– 8 dr.	4. –30.
Linseed Oil	½– 1 pt.	250. –500.	6–12 oz.	180. –360.	½– 2 oz.	15. –60.
Lithium Bromide	½– 1 oz.	15. – 30.	½– 2 dr.	2. – 8.	2–30 gr.	0.13 – 2
Carbonate	1– 4 dr.	4. – 30.	15–60 gr.	1. – 4.	3–10 gr.	0.2 – 0.6
Citrate	1– 4 dr.	4. – 15.	15–60 gr.	1. – 4.	1–20 gr.	0.06 – 1.3
Lobelia	1– 8 dr.	4. – 30.	½– 2 dr.	2. – 8.	½–20 gr.	0.03 – 1.3
Fld. Ext.	1– 8 dr.	4. – 30.	½– 2 dr.	2. – 8.	½–20 m.	0.03 – 1.3
Tinct.	1– 2 oz.	30. – 60.	1– 3 dr.	4. – 12.	3–30 m.	0.2 – 2.
Lobelin	5–15 gr.	0.3 – 1.	1– 2 gr.	0.06 – 0.13	½– 1 gr.	0.03 – 0.06
Lugol's Solution	2– 4 dr.	8. – 15.	20–40 m.	1.3 – 2.6	2–10 m.	0.13 – 0.6
Lupulin	1– 3 dr.	4. – 12.	10–20 gr.	0.6 – 1.3	5–10 gr.	0.3 – 0.6

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	HORSE AND COW				SHEEP AND SWINE				DOG			
	Apoth.		Metric.		Apoth.		Metric.		Apoth.		Metric.	
Magnesia (Foals & Calves)	1– 2 dr.	4.	– 8.		1– 2 dr.	4.	– 8.		5–60 gr.	0.3	– 4.	
Magnesium Carb.	½– 2 oz.	15.	– 60.		1– 4 dr.	4.	–15.		½– 2 dr.	2.	– 8.	
Sulphate (Lax.)	2– 4 oz.	60.	– 120.		½– 1 oz.	15.	–30.		1– 4 dr.	4.	–15.	
(Purg.) cow	1– 2 lb.	500.	–1000.		4– 6 oz.	120.	–180	Sheep				
Male Fern.												
Fld. Ext.	3– 6 dr.	12.	– 24.		1– 2 dr.	4.	– 8.		15–60 m.	1.	– 4.	
Oleoresin	3– 6 dr.	12.	– 24.		1– 2 dr.	4.	– 8.		15–60 m.	1.	– 4.	
Manganese Dioxide	½– 2 dr.	2.	– 8.		5–10 gr.	0.3	– 0.6		2– 5 gr.	0.13	– 0.3	
Massa Hydrargyri (Blue Mass)	½– 2 dr.	2.	– 8.		5–20 gr.	0.3	– 1.3		1–10 gr.	0. 06	– 0.6	
Manna									1– 2 oz.	30.	–60.	
Matico, Fld. Ext.	½– 1 oz.	15.	– 30.		1– 2 dr.	4.	– 8.		30–60 m.	2.	– 4.	
Tinct.	1– 2 oz.	30.	– 60.		2– 4 dr.	8.	–15.		½– 2 dr.	2.	– 8.	
Matricaria, Fld. Ext.	2– 8 dr.	8.	– 30.		15–60 m.	1.	– 4.		8–30 m.	0.5	– 2.	
Menthæ Piperitæ, (Peppermint)												
Oil	15–30 m.	1.	– 2.		5–10 m.	0.3	– 0.6		1– 5 m.	0.06	– 0.3	
Spt.	2– 4 dr.	8.	– 15.		½– 1 dr.	2.	– 4.		1–30 m.	0.06	– 2.	
Menthol	15–30 gr.	1.	– 2.		5–10 gr.	0.3	– 0.6		1– 3 gr.	0.06	– 0.2	
Mercury with Chalk (Foals & Calves)	10–15 gr.	0.6	– 1.		10–15 gr.	.6	– 1.		1–10 gr.	0.06	– 0.6	

Mercury, Biniodide	2– 8 gr.	0.13 – 0.5	½– 2 gr.	0 .03 – 0.13	$\frac{1}{20}$– $\frac{1}{5}$ gr.	0.003 – 0.013
Mercury, Chloride Corros.	5– 8 gr.	0.3 – 0.5	1– 2 gr.	0.06 – 0.13	$\frac{1}{30}$–⅛ gr.	0.002 – 0.008
Corrosive sublim.						
Mild (Calomel)	½– 1 dr.	2. – 4.	2–10 gr.	0.13 – 0.6	1– 5 gr.	0.06 – 0.3
Iodide Red	5– 8 gr.	0.3 – 0.5	1– 2 gr.	0.06 – 0.13	$\frac{1}{30}$–⅛ gr.	0.002 – 0.008
Mass (Blue Pill)	1– 3 dr.	4. –12.	5–20 gr.	0.3 – 1.3	1–10 gr.	0.06 – 0.6
Methyl Salicylate	2– 8 dr.	8. –30.	15–60 m.	1. – 4	5–15 m.	0.3 – 1.
Methylene Blue	15–60 gr.	1. – 4.	3– 8 gr	0.2 – 0.5	1½– 4 gr.	0.1 – 0.25
Morphine & Salts	3–10 gr.	0.2 – 0.6	⅕– 2 gr.	0.013– 0 13	⅛–½ gr.	0.008 – 0 03
Morrhuol	½– 2 dr.	2. – 8.	2–10 gr.	0.13 – 0.6	1– 5 gr.	0.06 – 0.3
Muscarine Sulph.	⅕–½ gr.	0.013– 0.03	$\frac{1}{20}$–$\frac{1}{10}$ gr.	0.003– 0.006	$\frac{1}{30}$–$\frac{1}{15}$ gr.	0.002 – 0.004
Mustard	½– 1 oz.	15. –30.	½– 2 dr.	2. – 8.	10–15 gr.	0.6 – 1.
Emetic			½– 1 oz.	15. –30.	½ oz.	–15.
Myrrh, Powd.	2 dr.	8.	½– 1 dr.	2. – 4.	10–20 gr.	0.6 – 1.3
Tinct.	2– 4 dr.	8. –15.	1– 2 dr.	4. – 8.	10–30 m.	0.6 – 2.
Naphthalin	2– 4 dr.	8. –15.	10–60 gr.	0.6 – 4.	1–20 gr.	0.06 – 1.3
Naphthol	2– 3 dr.	8. –12.	5–30 gr.	0.3 – 2.	1–10 gr.	0.06 – 0.6
Nicotine	$\frac{1}{60}$–$\frac{1}{10}$ gr.	0.001– 0.006	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001– 0.002	$\frac{1}{100}$–$\frac{1}{60}$ gr.	0.0006– 0.001
Nitroglycerin	⅕–½ gr.	0.013– 0.03	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001– 0.002	$\frac{1}{100}$–$\frac{1}{60}$ gr.	0.0006– 0.001
1% solution	½– 1 dr.	2. – 4.	5–10 m.	0.3 – 0.6	1– 2 m.	0.06 – 0.13

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Nitrous Ether, Spt. (Sweet Spt. Nitre)	1– 4 oz.	30. – 120.	2– 4 dr.	8. – 15.	10–60 m.	0.6 – 4.
Nuclein	2– 6 dr.	8. – 24.	½– 2 dr.	2. – 8.	5–60 m.	0.3 – 4.
Nux Vomica	½– 2 dr.	2. – 8.	10–20 gr.	0.6 – 1.3	1– 2 gr.	0.06 – 0.13
Ext.	2–15 gr.	0.13– 1.	1– 3 gr.	0.06 – 0.2	⅛–¼ gr.	0.008 – 0 016
Fld. Ext.	½– 2 dr.	2. – 8.	10–20 m.	0.6 – 1.3	1– 2 m.	0.06 – 0.13
Tinct.	1– 6 dr.	4. – 24.	20–40 m.	1.3 – 2.6	5–15 m.	0.3 – 1.
Olive Oil	1– 2 pt.	500. –1000.	4– 8 oz.	120. –240.	2– 4 oz.	60. –120.
Opium	1– 2 dr.	4. – 8.	5–20 gr.	0.3 – 1.3	½– 3 gr.	0.03 – 0.2
Ext.	½– 1 dr.	2. – 4.	2–10 gr.	0.13 – 0.6	⅙–½ gr.	0.01 – 0.03
Tinct.	1– 2 oz.	30. – 60.	2– 6 dr.	8. – 24.	3–30 m.	0.2 – 2.
Tinct. Camph. (Paregoric)	2– 4 oz.	60. – 120.	4– 8 dr.	15. – 30.	1– 4 dr.	4. – 15.
Wine	1– 2 oz.	30. – 60.	2– 6 dr.	8. – 24.	3–30 m.	0.2 – 2.
Orexine	½– 3 dr.	2. – 1.2	5–15 gr.	0.3 – 1.	3– 9 gr.	0.2 – 0.55
Ox Gall	2– 5 dr.	8. – 20.	10–30 gr.	0.6 – 2.	5–15 gr.	0.3 – 1.
Pancreatin	½– 1 dr.	2. – 4.	10–20 gr.	0. – 1.3	5–15 gr.	0.3 – 1.
Papain	½– 1 dr.	2. – 4.	5–15 gr.	0.3 – 1.	2–10 gr.	0.13 – 0.6
Paraldehyde	½– 2 oz.	15. – 60.	1– 2 dr.	4. – 8.	30–60 m.	2. – 4.
Pareira, Fld. Ext.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	30–60 m.	2. – 4.
Pearson's Solution (Liq. Sodii Arsenatis)	2– 8 dr.	8. – 30.	½– 1 dr.	2. – 4.	2–10 m.	0.13 – 0.6

Pelletierine Sulph.	15–30 gr.	1.	–	2.	5–10 gr.	0.3	–	0.6	3– 6 gr.	0.2	–	0.4
Tannate	½– 1 dr.	2.	–	4.	15–30 gr.	1.	–	2.	10–20 gr.	0.6	–	1.3
Pepo (Pumpkin Seed)									½– 2 oz.	15.	–	60.
Pepper, Black	1– 2 dr.	4.	–	8.	20–60 gr.	1.3	–	4.	5–10 gr.	0.3	–	0.6
Peppermint, Oil	15–30 m.	1.	–	2.	5–10 m.	0.3	–	0.6	1– 5 m.	0.06	–	0.3
Spt.	2– 4 dr.	8.	–	15.	½– 1 dr.	2.	–	4.	15–30 m.	1.	–	2.
Pepsin	¼– 1 dr.	1.	–	4.	5–20 gr.	0.3	–	1.3	2–10 gr.	0.13	–	0.6
Saccharated	½– 2 dr.	2.	–	8.	10–40 gr.	0.6	–	2.6	4–20 gr.	0.25	–	1.3
Petrolatum	1– 8 oz.	30.	–	240.	2– 4 dr.	8.	–	15.	1– 2 dr.	4.	–	8.
Phenacetin	2– 3 dr.	2.	–	12.	10–30 gr.	0.6	–	2.	5–10 gr.	0.3	–	0.6
Phloridzin	1– 2 dr.	4.	–	8.	½– 1 dr.	2.	–	4.	15–30 gr.	1.	–	2.
Phosphorated Oil	2– 3 dr.	8.	–	12.	10–30 m.	0.6	–	2.	1– 3 m.	0.06	–	0.3
Phosphorus	1– 2 gr.	0.06–		0.13	$\frac{1}{100}$–$\frac{1}{20}$ gr.	0.0006–		0.003	$\frac{1}{100}$–$\frac{1}{20}$ gr.	0.0006–		0.003
Spt.	1– 2 dr.	4.	–	8.	10–30 m.	0.6	–	2.	7–20 m.	0.5	–	1.3
Physostigma (Calabar Bean)												
Fld. Ext.	15–30 m.	1.	–	2.	2– 4 m.	0.13	–	0.25	¼– 1 m.	0.016	–	0.06
Physostigmine Salicylate or Sulphate (Eserine)												
(Hypodermic)	1–1½ gr.	0.06–		0.1	$\frac{1}{50}$– $\frac{1}{5}$ gr.	0.0013–		.0013	$\frac{1}{100}$–$\frac{1}{30}$ gr.	0.0006–		0.002
Phytolacca, F. E.												
(Poke root)	1– 2 dr.	4.	–	8.	20–45 m.	1.3	–	3.	5–30 m.	0.3	–	2.
Pichi, Fld. Ext.	2– 6 dr.	8.	–	24.	½– 1 dr.	2.	–	4.	10–30 m.	0.6	–	2.

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Picrotoxin	$\frac{1}{6}$– $\frac{1}{3}$ gr.	0.01– 0.02	$\frac{1}{60}$–$\frac{1}{30}$ gr.	0.001– 0.002	$\frac{1}{120}$–$\frac{1}{50}$ gr.	0.0005– 0.001
Pilocarpine & Salts	2– 5 gr.	0.13– 0.3	$\frac{1}{10}$–$\frac{2}{3}$ gr.	0.006– 0.04	$\frac{1}{30}$–$\frac{1}{3}$ gr.	0.002 – 0.02
Pilocarpus (Jaborandi)	2– 4 dr.	8. – 15.	½– 1 dr.	2. – 4.	5–60 gr.	0.3 – 4.
Fld. Ext.	2– 4 dr.	8. – 15.	½– 1 dr.	2. – 4.	5–60 m.	0.3 – 4.
Piperazin	1– 2 dr.	4. – 8.	15–30 gr.	1. – 2.	15 gr.	– 1.
Podophyllin (May Apple)	1– 2 dr.	4. – 8.	5–20 gr.	0.3 – 1.3	1– 2 gr.	0.06 – 0.13
Pomegranate	1– 2 oz.	30. – 60.	1– 3 dr.	4. – 12.	½– 2 dr.	2. – 8.
Polygonum, F. E.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	10–60 m.	0.6 – 4.
Potassa, Solution	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 m.	0.3 – 1.3
Potassium Acetate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3
Bicarbonate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3
Bitartrate	½– 1 oz.	15. – 30.	½ oz.	– 15.	½– 1 dr.	2. – 4.
Bromide	1– 2 oz.	30. – 60.	2– 4 dr.	8. – 15.	5–60 gr.	0.3 – 4.
Carbonate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3
Chlorate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3
Citrate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3
Iodide	½– 1 oz.	15. – 30.	10–30 gr.	0.6 – 2.	2–15 gr.	0.13 – 1.
Nitrate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 gr.	0.3 – 1.3

Permangan, and Sodium	½– 1 dr.	2. – 4.	3– 6 gr.	0.2 – 0.4	½– 2 gr.	0.03 – 0.2		
Tartrate	1– 2 lb.	500. –1000.	2– 4 oz.	60. –120.	½– 1 oz.	15. –30.		
Prunus Virginiana, Fld. Ext. (Wild Cherry)	½– 2 oz.	15. – 60.	1– 2 dr.	4. – 8.	30–60 m.	2. – 4.		
Pulsatilla, F. E.	½– 2 dr.	2. – 8.	5–10 m.	0.3 – 0.6	2– 5 m.	0.13 – 0.3		
Pyrethrum	4– 8 dr.	15. – 30.	½–1½ dr.	2. – 6.	20–60 gr.	1.3 – 4.		
Quassia, Ext.	1– 2 dr.	4. – 8.	5–10 gr.	0.3 – 0.6	½– 3 gr.	.03 – 0.2		
Fld. Ext.	1– 2 oz.	30. – 60.	2– 4 dr.	8. – 15.	15–60 m.	1. – 4.		
Tinct. (1905)	1– 8 oz.	30. – 60.	1– 3 dr.	4. – 12.	¼– 1 dr.	1. – 4.		
Quassin	4– 8 gr.	0.25– 0.5	¼–½ gr.	0.016– 0.03	⅛– ⅓ gr.	0.008 – 0.02		
Quebracho, F. E.	½– 2 oz.	15. – 60.	1– 2 dr.	4. – 8.	5–60 m.	0.3 – 4.		
Quercus Alba	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	10–30 gr.	0.6 – 2.		
Fld. Ext.	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	10–30 m.	0.6 – 2.		
Quinidine (Tonic)	20–60 gr.	1.3 – 4.	6–15 gr.	0.4 – 1.	1½–2½ gr.	0.1 – 0.16		
(Antipyretic)	2– 5 dr.	8. – 20.	20–40 gr.	1.3 – 2.6	7–15 gr.	0.5 – 1.		
Quinine & Salts (Tonic)	15–60 gr.	1. – 4.	5–10 gr.	0.3 – 0.6	1– 2 gr.	0.06 – 0.13		
(Antipyretic)	2– 4 dr.	8. – 15.	20–40 gr.	1.3 – 2.6	5–10 gr.	0.3 – 0.6		
Resorcin	1– 2 dr.	4. – 8.	10–30 gr.	0.6 – 2.	2– 5 gr.	0.13 – 0.3		

In general the dose for the cat is ½ the dose for the dog. Hypodermics of alkaloids usually ½ the dose by mouth.

	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Rhamnus Catharticus, Fld. Ext.	1– 2 oz.	30. –60.	1– 2 dr.	4. – 8.	½– 1 dr.	2. – 4.
Syrup					1– 2 oz.	30. –60.
Rhubarb	1– 2 oz.	30. –60.	1 dr.	4.	5–10 gr.	0.3 – 0.6
Fld. Ext.	1– 2 oz.	30. –60.	1 dr.	4.	5–10 m.	0.3 – 0.6
Rhus Glab. F. E.	½– 1 oz.	15. –30.	1– 2 dr.	4. – 8.	30–60 m.	2. – 4.
Tox, Fld. Ext.	½– 2 dr.	2. – 8.	5–10 m.	0.3 – 0.6	1– 6 m.	0.6 – 0.4
Ricini, Ol	1 pt.	500. –	2– 4 oz.	60. –120.	1– 2 dr.	4. – 8.
Rubus, Fld. Ext.	1– 2 oz.	30. –60.	1– 2 dr.	4. – 8.	10–60 m.	0.6 – 4.
Rumex, Fld. Ext.	1– 2 oz.	30. –60.	1– 2 dr.	4 – 8.	15–60 m.	1. – 4.
Ruta, Fld. Ext.	½– 1 oz.	15. –30.	½– 1 dr.	2. – 4.	15–30 m.	1. – 2.
Oil	½– 1 dr.	2. – 4.	2–10 m.	0.13 – 0.6	1– 5 m.	0.06 – 0.3
Sabina, Fld. Ext. (Savin)	1– 2 oz.	30. –60.	½– 1 dr.	2. – 4	5–15 m.	0.3 – 1.0
Oil	2– 4 dr.	8. –15.	–15 m.	0.5 – 1.	1– 5 m.	0.06 – 0.3
Saccharin	5–10 gr.	0.3 – 0.6	½– 3 gr.	0.03 – 0.2	¼– 2 gr.	0.016 – 0.13
Salicin	2– 8 dr.	8. –30.	½– 2 dr.	2. – 8.	5–30 gr.	0.3 – 2.
Salol	¼– 4 dr.	1. –15.	10–30 gr.	0.6 – 2.	1– 5 gr.	0.06 – 0.3
Sanguinaria, F. E. (Blood-root)	1– 6 dr.	4. –24.	10–30 m.	0.6 – 2.	5–15 m.	0.3 – 1.

Santal., Fld. Ext.	½– 2 oz.	15.	–60.	2– 3 dr.	8.	– 12.	1– 2 dr.	4.	–8.
Oil	1– 3 dr.	4.	–12.	10–45 m.	0.6	– 3.	5–30 m.	0.3	–2.
Santonin	½– 1 oz.	15.	–30.	1– 2 dr.	4.	– 8.	2–20 gr.	0.13	–1.3
Sapo (Soap)	2– 6 dr.	8.	–24.	15–60 gr.	1.	– 4.	5–30 gr.	0.3	–2.
Saponin	1½– 4 gr.	0.1	– 0.25	¼– 1 gr.	0.016–	0.06	$\frac{1}{10}$– $\frac{1}{5}$ gr.	0.006	–0.013
Sarsaparilla, F. E.	1– 2 oz.	30.	–60.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	–4.
F. E. Comp.	1– 2 oz.	30.	–60.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	–4.
Sassafrass, F. E.	1– 2 oz.	30.	–60.	1– 2 dr.	4.	– 8.	½– 2 dr.	2.	–8.
Oil	½– 2 dr.	2.	– 8.	5–10 m.	0.3	– 0.6	1– 5 m.	0.06	–0.3
Savin (see Sabina)									
Scammony	2– 6 dr.	8.	–24.	1– 3 dr.	4.	– 12.	½– 2 dr.	2.	–8.
Resin	2– 4 dr.	8.	–15.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	–4.
Scilla	½– 1 dr.	2.	– 4.	5–20 gr.	0.3	– 1.3	2– 5 gr.	0.13	–0.3
Scoparine	5–15 gr.	0.3	– 1.	1– 2 gr.	0.06	– 0.13	½– 1 gr.	0.03	–0.06
Scoparius, F. E.	½– 1 oz.	15.	–30.	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	–4.
Scopolamine Hydrobromide (Hypo)	$\frac{1}{200}$–$\frac{1}{100}$ gr.	0.003–	0.006	$\frac{1}{600}$–$\frac{1}{300}$ gr.	0.001–	0.002	$\frac{1}{2500}$–$\frac{1}{600}$ gr.	.00025–	.001
Scutellaria, F. E. (Skull cap)	½– 1 oz.	15.	–30.	1– 3 dr.	4.	– 12.	½– 2 dr.	2.	–4.
Senega, Fld. Ext.	1– 4 dr.	4.	–15.	15–30 m.	1.	– 2.	5–15 m.	0.3	–1.

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Senegin	5–20 gr.	0.3 – 1.3	½– 2 gr.	0.03 – 0.13	¼– 1 gr.	0.016– 0.06
Senna	4– 5 oz.	120. –150.	1– 2 oz.	30. –60.	1– 4 dr.	4. –15.
Fld. Ext.	4– 5 oz.	120. –150.	1– 2 oz.	30. –60.	1– 4 dr.	4. –15.
Serpentaria, F. E. (Virginia Snake Root)	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	10–30 m.	0.6 – 2.
Tinct.					½– 2 dr.	2. – 8.
Silver Nitrate	5–10 gr.	0.3 – 0.6	1– 2 gr.	0.06 – 0.13	⅛–½ gr.	0.008– 0.03
Sinapis, Oil. Vol.	2– 5 m.	0.13– 0.3	¼–½ m.	0.016– 0.03	⅛–¼ m.	0.008– 0.016
Soda, Solution	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	5–20 m.	0.3 – 1.3
Sodium Acetate	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	10–30 gr.	0.6 – 2.
Arsenate	3– 6 gr.	0.2 – 0.4	½– 1 gr	0.03 – 0.06	$\frac{1}{60}$– $\frac{1}{10}$ gr.	0.001– 0.005
Benzoate	½– 8 dr.	2. – 30.	10–60 gr.	0.06 – 4.	3–10 gr.	0.2 – 0.6
Bicarbonate	½– 4 oz.	15. –120.	½– 1 dr.	2. – 4.	5–30 gr.	0.5 – 2.
Borate	¼– 1 oz.	8. – 30.	10–60 gr.	0.6 – 4.	10–30 gr.	0.6 – 2.
Bromide	1– 2 oz.	30. – 60.	2– 4 dr.	8. –15.	5–60 gr.	0.3 – 4.
Carbonate	2– 6 dr.	8 – 24.	20–40 gr.	1.3 – 2.6	5–20 gr.	0.3 – 1.3
Chlorate	3– 6 dr.	12. – 24.	30–50 gr.	2. – 3.3	6–12 gr.	0.4 – 0.8
Chloride	½– 2 oz.	15. – 60.	2– 4 dr.	8. –15.	5–20 gr.	0.3 – 1.3
Purg. (Cow)	½– 1 lb.	250. –500.				
Hypophos	½– 1 oz.	15. – 30.	½– 1 dr.	2. – 4.	10–30 gr.	0.6 – 2.

Hyposulphite	½– 2 oz.	15.	– 60.	½– 1 dr.	2.	– 4.	5–30 gr.	0.3	– 2.
Iodide	2– 4 dr.	8.	– 15.	15–30 gr.	1.	– 2.	2–10 gr.	0.13	– 0.6
Nitrate	½– 2 oz.	15.	– 60.	1– 2 dr.	4.	– 8.	½– 2 dr.	2.	– 4.
Nitrite	10–30 gr.	0.6	– 2.	1– 5 gr.	0.06	– 0.3	½– 3 gr.	0.03	– 0.2
Phosphate	½–10 oz.	15.	–300.	3– 8 dr.	12.	–30.	1– 4 dr.	4.	–15.
Salicylate	2– 8 dr.	8.	– 30.	½– 2 dr.	2.	– 8.	5–30 gr.	0.3	– 2.
Santoninate	½– 2 dr.	2.	– 4.	5–20 gr.	0.3	– 1.3	2–10 gr.	0.13	– 0.6
Sulphate (Glauber's Salts)									
(Cow)	1–1½ lb.	500.	–750.	½– 2 oz.	15.	–60.	1– 4 dr.	4.	–15.
(Horse)	½– 1 lb.	250.	–500.						
Sulphite	½– 1 oz.	15.	– 60.	½– 1 dr.	2.	– 4.	5–30 gr.	0.3	– 2.
Sulphocarbolate	2– 8 dr.	4.	– 30.	15–60 gr.	1.	– 4.	10–30 gr.	0.6	– 2.
Sparteine Sulphate	5–30 gr.	0.3	– 2.	½– 4 gr.	0.03	– 0.25	$\frac{1}{10}$– 2 gr.	0.006–	0.13
Spigelia, Fld. Ext.	2– 8 dr.	4.	– 30.	½– 2 dr.	2.	– 4.	15–60 m.	1.	– 4.
Squill	1– 2 dr.	4.	– 8.	5–20 gr.	0.3	– 1.3	1– 5 gr.	0.06	– .3
Fld. Ext.	1– 2 dr.	4.	– 8.	5–20 m.	0.3	– 1.3	1– 5 m.	0.06	– 0.3
Syrup	½ oz.	15.	–	1– 2 dr.	4.	– 8.	½– 1 dr.	2.	– 4.
Tinct.	6–12 dr.	24.	– 48.	1½– 3 dr.	6	–12.	5–30 m.	0.3	– 2.
Stillingia, F. E.	2– 8 dr.	4.	– 30.	½– 2 dr.	2.	– 8.	10–60 m.	0.6	– 4.
Tinct.	½–1½ oz.	15.	– 45	1– 2 dr.	4.	– 8.	½– 1 dr.	2	– 4.

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Stramonium, Ext.	5–10 gr.	0.3 – 0.6	¼– 1 gr.	0.015– 0.06	⅙–½ gr.	0.01 – 0.03
Fld. Ext.	20–60 m.	1.3 – 4.	5–10 m.	0.3 – 0.6	1– 5 m.	0.06 – 0.3
Tinct.	1– 2 dr.	4. – 8.	10–30 m.	0.6 – 2.	5–20 m.	0.3 – 1.3
Strontium Brom.	1– 2 oz.	30. – 60.	2– 4 dr.	8. –15.	10–60 gr.	0.6 – 4.
Iodide	½– 1 oz.	15. – 30.	1– 2 dr.	4. – 8.	5–60 gr.	0.3 – 4.
Strophanthin	⅕– ½ gr.	0.013– 0.03	$\frac{1}{30}$ $\frac{1}{15}$ gr.	0.002– 0.004	$\frac{1}{100}$–$\frac{1}{60}$ gr.	0.0006– 0.001
Strophanthus, Tinct.	1– 4 dr.	4. – 15.	5–20 m	0.3 – 1.3	2–10 m.	0.13 – 0.6
Strych. and Salts	½– 2 gr.	0.03 – 0.13	$\frac{1}{30}$– ⅕ gr.	0.002– 0.013	$\frac{1}{120}$–$\frac{1}{30}$ gr.	0.0005– 0.002
Sulphonal	1– 6 dr.	4. – 24.	10–45 gr.	0.6 – 3.	5–30 gr.	0.3 – 2.
Sulphur	2– 4 oz.	60. –120.	1– 2 oz.	30. –60.	½– 4 dr.	2 –15.
Sumbul, Fld. Ext.	2– 6 dr.	8. – 24.	15–60 m.	1. – 4.	5–30 m.	0.3 – 4.
Tinct.	4– 8 dr.	15. – 30.	½– 2 dr.	2. – 8.	10–60 m.	1. – 4.
Suprarenalin Sol. 1–1000	1– 4 dr.	4. – 15.	½– 1 dr.	2. – 4.	10–30 m.	0.6 – 2.
Svapnia	10–30 gr.	0.6 – 2.	1– 4 gr.	0.06 – .2	½– 2 gr.	0.03 – 0.13
Sweet Spirit Nitre	1– 4 oz.	30. –120.	2– 4 dr.	8. –15.	10–60 m.	0.6 – 4.
Tanacetum Ol (Tansy)	20– 0 m.	1.3 – 4.	2– 6 m.	0.13 – 0.4	1– 3 m.	0.06 – 0.2

Taraxacum	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	1– 2 dr.	4.	– 8.
Ext.	1– 4 dr.	4.	– 15.	20–40 gr.	1.3	– 2.6	5–30 gr.	0.3	– 2.
Fld. Ext.	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	1– 2 dr.	4.	– 8.
Terebene	2– 6 dr.	8.	– 24.	½– 1 dr.	2.	– 4.	5–15 m.	0.3	– 1.
Terebinthinæ Ol.	1– 2 oz.	30.	– 60.	1– 4 dr.	4.	–15.	10–30 m.	0.6	– 2.
Terpin Hydrate	½– 2 dr.	2.	– 8.	10–40 gr.	0.6	– 2.6	5–20 gr.	0.3	– 1.3
Thalline Sulphate	2– 3 dr.	8.	– 12.	15–30 gr.	1.	– 2.	3– 8 gr.	0.2	– 0.5
Thiosimanin	½– 1 dr.	2.	– 4.	8–15 gr.	0.5	– 1.	4– 7 gr.	0.25	– 0.5
Thymol	½– 2 dr.	2.	– 8.	5–30 gr.	0.3	– 2.	1–15 gr.	0.06	1.
Tiglii, Ol.	15–30 m.	1.	– 2.	5–10 m.	0.3	– 0.6	½– 3 m.	0.03	– 0.2
Tobacco	1– 2 dr.	4.	– 8.	10–30 gr.	0.6	– 1.3	5–10 gr.	0.3	– 0.6
Tonga, Fld. Ext.	2– 8 dr.	8.	– 30.	½– 1 dr.	2.	– 4.	30 m.	2.	
Tribromphenol	20–90 gr.	1.3	– 6.	1– 8 gr.	0.06	– 0.5	½– 4 gr.	0 03	– 0.25
Trional	1– 4 dr.	4.	– 15.	15–45 gr.	1.	– 3.	10–30 gr.	0.6	– 2.
Triticum, Fld. Ext.	1– 2 oz.	30.	– 60.	2– 6 dr.	8.	–24.	1– 4 dr.	4.	–15.
Trypsin	15–45 gr.	1.	– 3.	8–15 gr.	0.5	– 1.	5–10 gr.	0.3	– 0.6
Turpentine Oil									
(Carminative)	1– 2 oz.	30.	– 60.	1– 4 dr.	4.	–15.	10–30 m.	0.6	– 2.
(Anthelmin.)	2– 4 oz.	60.	–120.	½– 1 oz.	15.	–30.	½– 4 dr.	2.	–15.
(Diuretic)	2– 6 dr.	8.	– 24.						
Ural. Uralium	2– 4 dr.	8.	– 15.	½– 1 dr.	2.	– 4.	15–45 gr.	1.	– 3.
Uranium Nitrate	5–20 gr.	0.3	– 1.3	⅓– 2 gr.	0.02	– 0.13	1/6– 1 gr.	0.01	– 0.06

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	HORSE AND COW		SHEEP AND SWINE		DOG	
	Apoth.	Metric.	Apoth.	Metric.	Apoth.	Metric.
Urea	1– 4 dr.	4. – 15.	15–20 gr.	1. – 1.3	10 gr.	0.6
Urethane	1– 4 dr.	4. – 15.	15–30 gr.	1. – 2.	10–15 gr.	0.6 – 1.
Urotropin	1– 4 dr.	4. – 15.	10–45 gr.	0.6 – 3.	7–30 gr.	0.5 – 2.
Ustilago, Fld. Ext.	½– 2 oz.	15. – 60.	½– 1 dr.	2. – 4.	½– 1 dr.	2. – 4.
Uva Ursi, Fld. Ext. (Bearberry)	2– 4 oz.	60. –120.	2– 4 dr.	8. –15.	10–60 m.	0.6 – 4.
Valerian	1– 2 oz.	30. – 60.	1– 2 dr.	4. – 8.	10–60 gr.	0.6 – 4.
Fld. Ext.	1– 2 oz.	30. – 60.	1– 2 dr.	4. – 8.	10–60 m.	0.6 – 4.
Tinct.			1– 3 dr.	4. –12.	½– 2 dr.	2. – 8.
Tinct. Ammon.			1– 3 dr.	4. –12.	½– 2 dr.	2. – 8.
Oil.	½– 1 dr.	2. – 4.	10–20 m.	0.6 – 1.3	2– 5 m.	0.13 – 0.3
Valer, Ammon.	1– 4 dr.	4. – 15.	5–10 gr.	0.3 – 0.6	2– 5 gr.	0.13 – 0.3
Iron	1– 3 dr.	4. – 12.	3– 8 gr.	0.2 – 0.3	1– 2 gr.	0.06 – 0.2
Zinc	1– 3 dr.	4. – 12.	3– 8 gr.	0.2 – 0.5	1– 3 gr.	0.06 – 0.2
Veratrine	½– 2 gr.	0.03– 0.13	$\frac{1}{10}$– $\frac{1}{3}$ gr.	0.006– 0.02	$\frac{1}{50}$–$\frac{1}{10}$ gr.	0.0013– 0.006
Veratrum Viride	½– 1 dr.	2. – 4.	20–30 gr.	1.3 – 2.	$\frac{1}{10}$– 1 gr.	0.006 – 0.06
Fld. Ext.	½– 1 dr.	2. – 4.	20–30 gr.	1.3 – 2.	$\frac{1}{10}$– 1 m.	0.006 – 0.06
Tinct. (1890)	1– 2 dr.	4. – 8.	20–40 m.	1.3 – 2.6	½– 2 m.	0.03 – 0.13
Tinct. (1905)	2– 3 dr.	8. – 12.	40–60 m.	2.6 – 4.	2– 8 m.	0.13 – 0.5
Viburnum Prun. (Black Haw)						
Fld. Ext.	1– 4 oz.	30. –120.	2– 4 dr.	8. –15.	10–60 m.	0.6 – 4.

Vinegar	1– 4 oz.	30.	–120.	½– 4 dr.	2.	– 8.	15–60 m.	1.	– 4.
Whiskey	2– 4 oz.	60.	–120.	1– 2 oz.	30.	–60.	1– 4 dr.	4.	–15.
Wild Cherry, Syrup				2– 6 dr.	8.	–24.	1– 4 dr.	4.	–15.
Wintergreen Oil	2 dr.–1 oz.	8.	– 30.	½– 2 dr.	2.	– 8.	5–15 m.	0.3	– 1.
Xanthoxylum, (Prickly Ash)									
Fld. Ext.	½– 2 oz.	15.	– 60.	1– 3 dr.	4.	–12.	5–60 m.	0.3	– 4.
Zea, Fld. Ext.	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	1– 2 dr.	4.	– 8.
Zinc Acetate	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	½– 2 gr.	0.03	– 0.13
Bromide	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	½– 2 gr.	0.03	– 0.13
Iodide	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	½– 2 gr.	0.03	– 0.13
Oxide	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	1–10 gr.	0.06	– 0.6
Phosphide	½– 2 gr.	0.03–	0.13	1/20– 1/5 gr.	0.003–	0.013	1/40– 1/10 gr.	0.0015–	0.006
Sulphate	1– 2 dr.	4.	– 8.	10–20 gr.	0.6	– 1.3	2– 3 gr.	0.13	– 0.2
Valerianate	20–60 gr.	1.3	– 4.	3– 6 gr.	0.2	– 0.4	1– 3 gr.	0.06	– 0.2
Zingiber	2– 8 dr.	8.	– 30.	1– 2 dr.	4.	– 8.	5–30 gr.	0.3	– 2.
Fld. Ext.	2– 8 dr.	8.	– 30.	1– 2 dr.	4.	– 8.	5–30 m.	0.3	– 2.
Oleoresin	10–20 gr.	0.6	– 1.3	3– 6 gr.	0.2	– 0.4	½– 1 gr.	0.03	– 0.06
Syrup				1– 4 dr.	4.	–15.	½– 2 dr.	2.	– 8.
Tinct.	1– 2 oz.	30.	– 60.	2– 4 dr.	8.	–15.	10–60 m.	0.6	– 4.

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THERAPEUTIC TERMS.

ABLUENT. A cleansing agent. (Soap and water.)

ABORTIFACIENT. An agent causing premature birth of young. (Ergot.)

ABSORBENT. An agent causing absorption of exudates or diseased tissues. (Iodine, Chalk.)

ACRID. A sharp, biting substance. (Pepper.)

ADJUVANT. A medicine that assists the action of another. (Calomel with Aloes.)

ALIMENT. A material which nourishes. (Food.)

ALKALOID. A term derived from the Arabic "Alkali" for Potash. The ending *oid* is from the Greek which means like, hence "Alkaloid" is a substance which reacts with litmus *like* an alkali and forms a salt with an acid. The prefix in "Alkali" is the Arabic "al" which is the definite article, "the," hence "alkali" literally means "the Potash." The modern use of the term alkaloid, however, has no reference to potash, but is used to designate a certain class of active principles obtained from plants. They are organic bases containing nitrogen and form salts with acids. (Atropine.)

ALTERATIVE. A medicine used to modify nutrition so as to overcome morbid processes. (Potassium Iodide.)

ANALGESIC. A medicine used to alleviate pain. (Opium.)

ANAPHRODISIAC. A medicine used to allay sexual excitement. (Potassium Bromide.)

ANESTHETIC. An agent used to produce insensibility to pain. (Chloroform.)

ANHIDROTIC. An agent which lessens the secretion of sweat. (Belladonna.)

ANODYNE. An agent which diminishes sensibility to pain. (Compound Spirit of Ether.)

ANTACID. A medicine used to neutralize acids in the stomach and intestines. (Liquor Potassae.)

ANTAGONIST. A medicine which opposes the action of another medicine in the system. (Potassium Bromide and Strychnine.)

ANTHELMINTIC. A remedy for destroying or expelling worms or to prevent their development. (Santonin.)

ANTIDOTE. A substance to counteract poisons. (Sulphates in Carbolic Acid poisoning.)

ANTI-EMETIC. An agent which allays vomiting. (Bismuth Subnitrate.)

ANTIFEBRILE. An agent for the reduction of fever. (Acetanilid.)

ANTILITHIC. An agent tending to dissolve or cure stone or gravel. (Potassium Citrate.)

ANTIPARASITIC. A substance that destroys or drives away insects. (Essential Oils.)

ANTIPERIODIC. A medicine which tends to prevent the periodic recurrence of disease. (Quinine.)

ANTIPHLOGISTIC. Any medicine or treatment which tends to check inflammation. (Aconite.)

ANTIPYRETIC. A medicine to reduce body temperatures in fevers. (Salicylic Acid.)

ANTISEPTIC. An agent antagonizing sepsis or putrefaction. (Carbolic Acid.)

ANTISPASMODIC. A medicine for preventing or relieving spasms. (Valerian.)

Antithermic. An agent for the reduction of high temperature. (Antipyrin.)

Antizymotic. A substance preventing fermentation. (Salicylic Acid.)

Aperient. A mild agent for opening the bowels. (Rochelle Salts.)

Aphrodisiac. An agent for stimulating sexual power. (Damiana.)

Aromatic. A medicine possessing a spicy or pungent taste and odor, and more or less stimulating to the mucosa of the alimentary tract. (Cardamom.)

Astringent. A medicine causing contraction or constriction of tissues. (Tannin.)

Auxiliary. A medicine that assists another. (Chloral with Potassium Bromide.)

Bitter. A medicine with a bitter taste stimulating the gastro-intestinal mucosa without materially affecting the general system. (Gentian.)

Blenorrhagic. A remedy for increasing the secretion of mucus. (Balsam Tolu.)

Blister. An agent, which when applied to the skin, causes a local inflammatory exudation of serum under the epidermis. (Cantharides.)

Cachexia. A term used to designate any morbid tendency, dyscrasia, or depraved condition of general nutrition, etc., used particularly in connection with scrofula, syphilis, cancer, etc.

Calefacient. A medicine applied externally to produce a sensation of warmth to the part to which it is applied. (Mustard.)

Calmant. A medicine which lowers functional activity. (Aconite.)

Calmative. A medicine which quiets. (Morphine.)

CALORIFACIENT. A substance which has the power of developing heat in the system. (Fats, Cod Liver Oil.)

CALORIFIC. Same as Calorifacient.

CARDIAC DEPRESSANT. A medicine to reduce the heart's action. (Veratrine.)

CARDIAC STIMULANT. A medicine used to increase the heart's action. (Digitalis.)

CARMINATIVE. A remedy which allays pain by causing the expulsion of flatus from the alimentary canal. (Asafetida.)

CATALEPTIC. An agent causing animals to lose power over their muscles. (Cannabis.)

CATALYTIC. A medicine counter-acting or destroying morbid agencies in the blood. (Calomel.)

CATHARTIC. A medicine which quickens or increases evacuations from the intestines. (Castor Oil.)

CATHARTIC, CHOLAGOGUE. An agent stimulating the stool and flow of bile at the same time. (Podophyllin.)

CATHARTIC, DRASTIC. A medicine producing violent action of the bowels with griping pain. (Jalap.)

CATHARTIC, HYDRAGOGUE. A remedy which causes copious watery stools. (Elaterium.)

CATHARTIC, SALINE. Neutral salts of metals of the alkalies or alkaline earths which increase the stools. (Magnesium Sulphate.)

CATHARTIC, SIMPLE. A substance which causes one or two actions of the bowels. (Senna.)

CAUSTIC. An agent used to destroy living tissue. (Silver Nitrate.)

CAUTERY. A substance used to corrode or destroy living tissues. (Nitric Acid.)

CAUTERY, ACTUAL. A heated metal or fire employed to destroy living flesh.

CAUTERY, POTENTIAL. A chemical used to destroy flesh. (Nitric Acid.)

CHALYBEATE. A tonic containing iron. (Tincture of Chloride of Iron.)

CHOLAGOGUE. A drug provoking the flow of bile. (Podophyllum.)

CONDIMENT. A substance used to improve the savor of food. (Salt, Pepper.)

CONSERVATIVE. A substance used for the preservation of others. (Honey.)

CONSTRINGENT. An agent producing constriction of organic tissue. (Oak Bark.)

CONVULSANT. A medicine causing convulsions. (Strychnine.)

CORDIAL. A medicine which increases the strength and raises the spirits when depressed. (Alcohol.)

CORRECTIVE. An agent used to correct or render more pleasant the action of other remedies, especially purgatives. (Coriander.)

CORROSIVE. A substance which disorganizes or destroys living tissue. (Nitric Acid.)

COUNTER IRRITANT. A remedy used to produce an irritation in one part to relieve a pain in another part. (Blister.)

CUMULATIVE POISON. A poison which finally acts with violence after several successive doses have been taken with little or no apparent effect. (Strychnine.)

DEBILITANT. An agent which diminishes the energy of organs. (Lobelia.)

DEFERVESCENT. An agent to reduce fever. (Aconite.)

DELIRIANT. A substance which produces delirium. (Stramomium.)

DELIRIFACIENT, (like deliriant). Tending to cause delirium. (Alcohol.)

DEMULCENT. A mucilaginous or oily substance to sooth and protect irritated mucous membranes. (Ulmus.)

DEOBSTRUENT. A medicine to remove functional obstructions in the system. (Aloes.)

DEODORANT. A substance to conceal or destroy foul odors. (Phenol.)

DEODORIZER. (like deodorant) to hide or destroy foul odors. (Chlorine.)

DEPILATORY. A substance to remove hair. (Barium Sulphide.)

DEPLETIVE. A substance to reduce the vital power of the system. (Aconite.)

DEPLETORY. An agent to diminish the quantity of liquid in the body. (Potassium Nitrate.)

DEPRESSANT. An agent to lower the vital power. (Aconite.)

DEPRESSO-MOTOR. A medicine to lessen motor activity. (Bromides.)

DEPURANT. An agent to cleanse foul sores, etc. (Hydrogen Dioxide.)

DEPURATIVE. A medicine to act upon the emunctories so as to cause excretion and thereby purify the system. (Hot Drinks.)

DEPURATORY. An agent to purify the blood, etc. (Sulphur.)

DERMATIC. A remedy used in skin diseases. (Resorcin.)

DERMIC. A medicine acting through the skin. (Liniments.)

DERIVATIVE. An agent to draw the fluids from one part of the body to another to lessen or relieve a morbid process. (Mustard.)

DESICCANT. A medicine or application for drying up sores. (Boric Acid.)

DESICCATIVE. An application for drying up secretions. (Zinc Oxide.)

DESICCATORY. A remedy applied externally to dry up the moisture or fluids from a wound. (Starch.)

DESQUAMATIC. A remedy to remove scales from the skin or bones. (Potassium Iodide.)

DETERGENT. An agent to cleanse wounds and ulcers. (Soap and Water.)

DIAPHORETIC. A medicine to produce sweating. (Pilocarpine.)

DIARRHETIC. A remedy producing profuse stools. (Mandrake.)

DIETETIC. A nutritious remedy. (Arrow-Root.)

DIGESTANT. A substance to aid the solution of food in the mouth, stomach, or intestines. (Pepsin, Pancreatin.)

DIGESTIVE. A tonic which promotes digestive processes. (Quassia.)

DILUENT. A medicine to dilute secretions and excretions. (Gamboge.)

DISCUTIENT. A remedy to effect the absorption of tumors.

DISINFECTANT. A substance with the power of destroying disease germs or the noxious properties of decaying organic matter. (Formaldehyde.)

Dissolvent. A remedy promoting solution of tissue. (Iodides.)

Diuretic. A drug to increase the secretion of urine. (Buchu.)

Drastic. An agent to cause violent action of the bowels. (Croton Oil.)

Ecbolic. A drug to produce abortion. (Ergot.)

Electuary. A composition of soft consistence taken internally to allay irritation or alleviate disease. (Honey, Molasses.)

Eliminative. An agent to remove material from the body. (Magnesium Sulphate.)

Emetic. A medicine to produce vomiting. (Ipecac.)

Emmenagogue. A drug to stimulate menstruation. (Potassium Permanganate.)

Emollient. A substance used externally to mechanically soften and protect tissues. (Flaxseed Poultice, Oils.)

Epispastic. An agent to produce a blister. (Strong Ammonia.)

Errhine. An agent to increase the nasal secretions. (Formalin.)

Escharotic. A substance to destroy tissue. (Chromic Acid.)

Evacuant. A medicine to expel substances from the body—chiefly with reference to the intestines. (Aloes.)

Excitant. An agent to arouse vital activity, or to produce increased action in an organism or any of its tissues. (Nux Vomica.)

Exhilarant. An agent to stimulate the mind. (Alcohol.)

EXPECTORANT. A medicine to act upon the pulmonary mucous membrane to increase or alter its secretions. (Ammonium Chloride.)

FEBRIFUGE. An agent to decrease fever. (Aconite.)

GALACTAGOGUE. A medicine to increase the secretion of milk. (Pilocarpine.)

GERMICIDE. An agent to destroy parasites. (Carbolic Acid.)

HEMATINIC. A tonic for the blood. (Hemoglobin. Iron Preparations.)

HEMOLYTIC. An agent which impoverishes the blood. (Mineral Acids.)

HEMOSTATIC. A remedy to check bleeding. (Iron Subsulphate. Monsell's Powder.)

HEPATIC DEPRESSANT or Sedative. A medicine to decrease the functions of the liver. (Opium.)

HEPATIC STIMULANT. A drug to increase the liver's functions. (Nitrohydrochloric Acid.)

HYDRAGOGUE. An agent causing full watery discharges from the bowels. (Gamboge.)

HYDROTIC or HIDROTIC. An agent to produce perspiration. (Spirit Nitrous Ether.)

HYPERESTHETIC. Increasing the sensitiveness of the skin.

HYPNOTIC. A drug producing sleep. (Chloral.)

HYPOSTHENIC. A debilitating medicine. (Lobelia.)

INCITANT. A remedy to excite functional activity. (Strychnine.)

INSECTICIDE. A remedy to destroy insects. (Benzine.)

INTOXICANT. An agent to excite or stupefy. (Alcohol.)

IRRITANT. A substance causing irritation, pain, inflammation and tension, either by mechanical or chemical action. (Heat, Mustard.)

LACTAGOGUE. An agent to increase the secretion of milk. (Malt.)

LAXATIVE. A medicine acting mildly in opening or loosening the bowels. (Sulphur.)

LENITIVE. An agent having the quality of easing pain or protecting tissues from the action of irritants. (Oils.)

LIQUEFACIENT. An agent promoting the liquifying processes of the system. (Iodine.)

LITHAGOGUE. An agent to expel calculi from bladder or kidney. (Benzoic Acid or Benzoates.)

LITHOLYTIC. An agent to dissolve gravel. (Ammonium Benzoate.)

LITHONTRIPTIC. An agent to dissolve gravel. (Potassium Carbonate.)

LOCAL ANESTHETIC. A medicine to destroy sensation, when applied locally. (Cocaine Hydrochloride.)

LOCAL ASTRINGENT. An agent to contract the tissues with which it comes in contact. (Lead Acetate.)

LUBRICANT. An agent to soothe irritation in the throat, fauces, etc. (Olive Oil. Honey.)

MECHANICAL. An agent acting on a physical basis. (Slippery Elm.)

MEDICAMENT. Any agent used for curing diseases or wounds. (Belladonna.)

MEDICINE. A substance administered in the treatment of disease. (Arsenic.)

MYDRIATIC. An agent causing dilatation of the pupil. (Atropine. Cocaine.)

MYOTIC. A drug causing contraction of the pupil. (Morphine.)

NARCOTIC. A powerful remedy causing stupor. (Opium.)

NAUSEANT. A substance causing sickness in the stomach. (Ipecac.)

NEPHRITIC. Medicine used in renal diseases. (Uva Ursi.)

NERVINE. Medicine to calm the nervous system. (Bromides.)

NEUROTIC. A medicine acting upon the nervous system. (Camphor Monobromide.)

NUTRIENT. A substance to build up the wasted tissues of the system. (Cod Liver Oil.)

NUTRIMENT. Any substance which promotes growth and repairs the waste of the tissues. (Food.)

OBTUNDENT. An agent which relieves irritation or reduces sensibility. (Opium.)

ODONTALGIC. An agent for the relief of toothache (Oil of Cloves.)

ODORANT. A substance with a pronounced odor. (Musk.)

OPIATE. A medicine causing sleep. (Opium, Chloral.)

OXYTOCIC. An agent to aid or produce parturition. (Ergot. Cotton Root.)

OXYURICIDE. An agent destructive to parasitic (Oxyuris) worms. (Santonin.)

PABULUM. Any material which affords nourishment to the tissues. (Food.)

PALLIATIVE. A remedy for the relief but not necessarily the cure of a disease. (Morphine.)

PANACEA. A remedy pretending to cure all diseases. (Some Patent Medicines.)

PARASITICIDE. A remedy for the destruction of parasites. (Calcium Sulphide.)

PARTURIENT or Parturifacient. A medicine to aid in the birth of the young. (Ustilago.)

PERISTALTIC. A drug increasing the movement or contraction of the intestines. (Strychine.)

PLACEBO. An inert substance given to satisfy a patient. (Sugar of Milk, Bread Pill.)

POISON. A substance which in sufficient amount is destructive to life. (Prussic Acid.)

POTENTIAL. A remedy which though powerful, is somewhat delayed in its action. (Arsenic.)

PRESERVATIVE. An agent to prevent deterioration of another substance. (Boric Acid.)

PREVENTIVE. Any measure or agent which retards or prevents disease. (Hygiene. Quinine as a preventative of malaria.)

PROPHYLACTIC. A medicine to prevent the taking or development of disease. (Vaccine.)

PROTECTIVE. An agent to protect the part to which it is applied. (Collodion.)

PUNGENT. An agent sharp and stimulating in its action. (Ammonia.)

PURGATIVE. A medicine to produce increased discharges from the bowels. (Aloes.)

PUSTULANT. An agent which, when applied externally, causes the formation of pus. (Croton Oil.)

RECUPERATIVE. A medicine to restore strength. (Cod Liver Oil.)

REFRIGERANT. An agent which produces the sensation of coolness. (Alcohol externally.)

RELAXANT. An agent that relieves contracted tissues, muscles, etc. (Chloroform.)

REMEDY. An agent used in the treatment of disease. (Medicine.)

REPARATIVE. A substance to restore debilitated tissues. (Food. Tonics.)

RESOLVENT. A remedy for the removal of hard tumors. (Iodine.)

RESTORATIVE. A medicine for causing a return of bodily vigor. (Arsenic. Strychnine.)

REVULSANT or Revulsive. An agent that by irritation, draws fluid from a distant diseased part. (Cantharides.)

RUBEFACIENT. An agent causing irritation and redness of the skin. (Mustard.)

SALINE. A cooling salt. (Magnesium Sulphate.)

SEDATIVE. A medicine to decrease functional activity. (Potassium Bromide.)

SEPTIC. An agent that promotes putrefaction. (Bacteria.)

SIALAGOGUE. A medicine that promotes the flow of saliva. (Pyrethrum. Pilocarpus.)

SIMPLE BITTER. A drug with a bitter taste. and tonic action. (Calumba. Quassia.)

SOMNIFACIENT. An agent to induce sleep (Morphine.)

SOPROFIC. A drug causing drowsiness and sleep. (Morphine.)

SORBEFACIENT. A medicine causing abortion. (Ergot.)

SPECIFIC. A remedy supposed to exert a special action in the prevention or cure of certain diseases. (Quinine in Malaria, Potassium Iodide in Actinomycosis.)

STERNUTATORY. An agent causing sneezing. (White Hellebore.)

STIMULANT. A medicine to increase or quicken functional activity. (Ammonium Carbonate.)

STOMACHIC. A drug to stimulate functional activity of the stomach. (Gentian.)

STOMATIC. A medicine used for diseases of the mouth. (Potassium Chlorate. Borax.)

STUPEFACIENT. A drug causing stupefaction. (Opium.)

STYPTIC. Agents causing contraction of blood vessels to check bleeding. (Alum.)

SUCCEDANEUM. A medicine that may be substituted for others possessing similar properties. (Chloral for Potassium Bromide.)

SUDORIFIC. A medicine or agent causing increased sweating. (Jaborandi.)

SUPPURANT. A substance causing the formation of pus. (Croton Oil.)

SYNERGIST. A drug which cooperates or assists the action of another. (Chloral with Bromides.)

TAENICIDE. A remedy for destroying tape worms. (Male Fern.)

TAENIFUGE. An agent to expel tape worms. (Areca Nut.)

TETANIC. A drug which increases the irritability of the cords or muscles producing spasms. (Strychnine.)

TONIC. A medicine promoting nutrition and giving tone to the system. (Arsenic.)

TOPIC or Topical. An external local remedy. (Liniment.)

TOXIC. A poisonous substance. (Phosphorus.)

TRICOPHYIA. Remedies promoting the growth of the hair. (Pilocarpine.)

UTERINE. An agent acting upon the uterus. (Ustilago.)

VEHICLE. A substance used as a medium for the administration of medicines. (Syrups.)

VERMICIDE. An agent to destroy parasitic worms. (Creosote.)

VERMIFUGE. An agent to expel parasitic worms. (Arecoline Hydrobromide. Purgatives.)

VESICANT. A blistering agent. (Cantharides.)

VIRUS. A poison causing a morbid process or disease; a pathogenic organism. (Cowpox. Virus of Rabies.)

VULNERARY. Any remedy or agent for healing wounds. (Ointments, etc.)

ZOIATRICA. Veterinary Medicines.

TERMINATION OF MEDICAL TERMS*

AE-RE-SIS (*airesis*, a taking of anything.) Example (*dia*, throughout), Di-æ-re-sis, a breach of continuity.

A-GOGUE (*agogos*, one who leads), denoting substances which expel others. Example, cholagogues (*chole*, bile), purgatives expelling bile.

AG-RA (*agra*, seizure), denoting seizure or pain, generally applied to gout. Ex., Cheir-ag-ra (*cheir*) gout in the hand. Ment-ag-ra (*mentum*, chin), eruption on the chin.

AL-GI-A (*algos*, pain.) Ex., Ceph-al-al-gi-a (*kephale*, the head). Neu-ral-gi-a, pain in a nerve.

CELE (*kele*, a tumor). Ex., (*bonbon*, the groin), Bu-bon-o-cele, a tumor in the groin.

*Adapted from Hoblyn's Medical Dictionary.

Ceph-a-lus (*kephale*, the head), denoting some affection of the head. Ex., A-ceph-a-lus, without a head.

Cra-ni-um (*kranion*, the skull), denoting the head of anything; (*olene*, the ulna). O-le-cra-non, the head of the ulna.

Dem-ic (*demos*, a people). En-dem-ic, diseases in or among, or peculiar to a people.

En-ter-y (*entera*, the bowels), denoting affections of the bowels. Ex. (*dus.* with difficulty) Dys-en-ter-y, inflammation of mucous membrane of large intestines.

Fa-ci-ent (*fa-ci-o*, to make), denoting the production of any particular effect. Ex., Ru-be-fa-ci-ent, a substance which makes the body red.

Form (*forma*, likeness),denoting resemblance, Ex., A-e-ri-form, like air.

Fuge (*fugo*, I expel), denoting that which expels. Ex., *Feb-ri-fuge*, a substance which expels fever

Gen—Gen-e-sis—Gen-ous (*genesis*, generation), denoting production or generation. Ex., Oxygen (*oxus*, acid), generating acid, as was supposed, Ex-o-ge-nous, outside growing, applied to plants growing by external increase.

Gno-sis (*gnosis*, knowledge). Ex. (*dia*, throughout). Di-ag-no-sis, distinction of diseases.

Graph-y (*graphe*, writing) a description of anything. Ex., Ad-e-no-graphy, (*aden*, a gland), a description of the glands.

Hex-i-a (*exis*, a habit), denoting an habitual state. Cac-hex-i-a (*kakos*, bad), bad state of the body.

Lep-sy (*lepsis*, a taking), denoting the act of taking). Cat-a-lep-sy (*kata*, thoroughly), a spasmodic attack of the limbs retaining them in one position

Lo-gy (*logos*, an account), denoting a treatise on or description of anything. Ex., Os-te-ol-o-gy (*osteos*, a bone), a description of the bones.

Ly-sis (*lusis*, a loosening). Ex., A-nal-y-sis, the resolution of a compound body into its constituent parts.

Ma-ni-a (*mania*, madness). Ex., Mo-no-ma-n-ia (*monos*, alone), madness on one subject.

Me-ter (*metron*, a measure). Ex., Ther-mom-e-ter (*therme*, heat), a measurer of heat.

O-dyne—O-dyn-i-a (*odune*, pain). Ex., An-o-dyne, without pain.

Oid (*eidos*, likeness). Ex., Ad-en-oid (*aden*-gland), like a gland.

Oph-thal-mos (*opthalmos*, the eye). Xer-oph-thal-mi-a (*xeros*, dry), dryness of the eye.

O-rex-i-a (*orexis*, appetite or desire). Ex., An-o-rex-i-a, want of appetite.

Path-i-a—Pathy (*pathos*, affection). Ex., Ho-moe-o-path-y (*omoios*, similar), the art of curing by inducing a similar disease.

Pep-si-a (*pepsis*, digestion). Dys-pep-si-a (*dus* with difficulty), difficult digestion.

Pha-gi-a (*phago*, to eat). Ex., Dys-pha-gi-a, difficulty of swallowing.

Pho-bi-a (*phobos*, fear). Ex., Hy-dro-pho-bi-a (*udor*, water), dread of water.

Pho-ni-a (*phone*, voice). Ex., A-pho-ni-a, loss of voice.

Pho-rus (*phero*, I convey). Ex., Phos-phor-us (*phos*, light), conveying light.

PHY-SIS (*phusis*, nature), denoting production or existence. Ex., Sym-phy-sis (*sum*, with), the growing together of bones, as of ossa pubis.

PLE-GI-A (*plege*, a stroke). He-mi-ple-gi-a (*Hemisus*, half), a paralysis of one side of the body.

PNOEA (*pnoia*, breathing). Ex., Dys-pnœa, difficulty of breathing.

PTO-SIS (*ptosis*, a falling down).

PTY-SIS (*ptusis*, a spitting). Ex., Hæ-mo-pty-sis (*Haima*, blood), a spitting of blood.

RHA-GI-A (*rago*, I burst forth). Ex., Hæm-or-rha-gi-a, a bursting forth of blood.

RAPH-E (*raphe*, a seam). Ex., Staph-y-lor raph-y, a sewing up of fissures of the palate.

RHOEA (reo, I flow). Ex., Leu-cor-rhœa (*Leukos*, white) a white discharge.

SAR-CA or SAR-CI-A (*sarx*, flesh). Ex., Poly-sar-ci-a (*polus*, much), excess of flesh.

SCOPE—SCO-PY (*skopos*, an inspection. Oph-thal-mo-scope, an instrument to inspect the eye.

STASIS (*istemi*, I stand), denoting a standing or position in a place. Ex., Met-a-sta-sis (*meta*, a preposition denoting change from one place to another), transference to another part.

STO-MA (*stoma*, the mouth). Di-sto-ma (*dis*, twice), two-mouthed.

THESIS (*thesis*, a position). Di-ath-e-sis, (*dia*, throughout.) The condition throughout, constitutional condition.

TOME—TO-MY (*tome*, a section). An-at-o-my, *cutting* up a dissection. Ker-a-tome, a knife for dividing the cornea.

TO-NI-A—TO-NOS (*tonos*, tension). Ex.

A-to-nia } without tone.
A-ton-ic }

TRO-PHY (*trophe*, nourishment). A-tro-phy, defective nutrition.

U-RE-SIS—U-RI-A (*ouresis*, the act of discharging urine). Ex., Dys-ur-i-a, difficulty of discharging the urine.

PRESCRIPTION WRITING.

A prescription may be defined as a written order or formula of ingredients, with directions to the compounder and instructions for the guidance of the patient. The term is derived from the Latin *prae* "before" and *scriptum* "written."

It is generally conceded that Latin is the best language for prescriptions. It is a dead language and therefore not subject to the variations which modern languages are continually undergoing. It is unchangeable the world over and a prescription written in this country may be put up in a foreign country with equal facility. The Latin name of a drug is distinctive and as a rule means only a given drug and ambiguity is therefore avoided; in some of the modern languages a given drug may have a variety of names, and in some cases the same name is applied to different drugs. Finally there is an element of secrecy which is often desirable to prevent the patient or general public from knowing what has been prescribed and there is less likelihood of "self doctoring" or using the prescription for some disorder for which it is not applicable.

A true principle of a prescription as based upon a maxim of Asclepiades, *curare cito, tuto et jucunde*, is to *cure quickly, safely and pleasantly*. According to this rule the typical prescription should contain, in the first place, an ingredient which is expected to relieve or *cure* the patient and is therefore called the basis; second, an ingredient designed to assist the action of the basis so that it may do its work more *quickly*, designated as the adjuvant; third, a substance intended to correct or modify any undesirable or injurious effect of the basis or adjuvant, or to cause it to act more *safely* than if used alone, and on this account is referred to as a corrective; and fourth, a substance may be added, which will give such form and consistence to the preparation as to make it *pleasant* and at the same time dilute the whole preparation to the proper proportion for measuring out the intended doses, termed the vehicle. The following table will express the idea in a concrete form:

Curare (Cure)	with the (Basis).
Cito (Quickly)	" " (Adjuvant).
Tuto (Safely)	" " (Corrective).
et	
Jucunde (Pleasantly)	" " (Vehicle).

In Veterinary practice *jucunde* is generally ignored as the patients do not take to the idea of medicines *pleasantly* as a rule, and the principal use of the vehicle is to dilute the ingredients to the proper dosage.

In addition to the ingredients other data are given, such as the date, name of patient, direc-

tions to the compounder and to the patient, and the signature of the physician. Taking the prescription in its entirety it may be divided as follows:

Superscription or heading includes the symbol ℞ (*Recipe*) the first direction, "take."

Inscription, the ingredients, or basis, adjuvant, corrective and vehicle.

Subscription, the directions to the compounder.

Transcription or Signature, the directions to the patient and the signature of the prescriber with the date.

In a simple prescription the basis may be the only ingredient. In a compound prescription (with two or more ingredients), the agents added may be neither adjuvant nor corrective and yet be a good prescription. It is desirable however, to keep the consideration of a "typical" prescription in mind.

Unusual doses of a powerful drug may be refused by the pharmacist unless some indication is made that the dose is intended. This is usually done by underscoring the dose, or better yet writing after it the abbreviation Q. R. (Quantum Rectum.)

Practice makes proficiency in prescription writing. The prescription needs study as much as any other subject and the student should practise the writing of it, independently of any demand, simply for the experience.

To the beginner the following general hints from Sollman should be of benefit: "When writing a prescription for a given condition, put down, first, the name of the best remedy. Ask yourself

whether there is any other drug which may be employed to aid this. Put this down also. Then consider in which form the medicine should be administered, whether as liquid, powder, salve, etc. This will usually determine which preparation of the ingredient is to be employed. Put this down also. Then ask yourself what may be added to render the mixture agreeable to the patient. When this is written down, all the ingredients will be represented. Now look over this carefully and see that there are no incompatibilities and that the constituents are soluble if the mixture is to be a liquid. Next insert the endings. Write the directions to the dispenser. Now consider the doses of the mixture, teaspoonful, tablespoonful, etc., the approximate number of doses, and from these calculate the size of the mixture. It should be considered how many doses are to be taken each day (on the basis of sixteen hours a day); this, multiplied by the number of days, gives approximately the size of the mixture. Then write the directions to the patient. Now consider how much of each ingredient is to be given at each dose, multiply by the number of doses, and write down the quantity. This finishes the prescription. Look over the result carefully in the same order."

A tonic prescription for the horse illustrating the points referred to may be given as follows:

Mr. G——. Bay Mare, Daisy.

Superscription, ℞

Inscription,

		Apoth.	Met.
(Basis)	Nucis Vomicæ pulv.,	ʒ ss	24
(Adjuvant)	Ferri Sulphatis pulv.,	ʒ ss	24
(Corrective)	Aloes Barbadensis pulv.,	ʒ iij	12

(Vehicle) Syrupi Zingiberis, q. s.

Subscription. Misce et fiant boli sex.

Transcription or signature.

Give one ball morning and night.

RICHARD ROE, D.V.M.,

JAN. 2, 1905. 148 Second Street.

The metric system is coming more and more into use so that a knowledge of it will in a few years be indispensable. The beginner should learn to write his prescriptions in both the apothecary and metric systems.

The ingredients of a prescription are frequently abbreviated and although writing out in full is better there is no special objection to the former practice if there is no ambiguity in the abbreviations. Grievous errors have occurred in this way and too much caution cannot be exercised in making the meaning clear, so that the most ignorant drug clerk may avoid error.

Numerous examples of ambiguous abbreviations might be given, but a few mentioned below will serve as examples:

Acid hyd. may mean either hydrobromic, hydrochloric, hydriodic, or hydrocyanic acid.

Chlor. may mean chlorine, chloroform, chloral hydrate, chlorate or chloride.

Hydr. Chlor. may mean calomel, corrosive sublimate, hydrate of chloral, or hydrastin hydrochloride.

The context may often assist in arriving at the correct meaning of the abbreviation but it is not safe in all cases to depend upon this.

A limited knowledge of Latin will serve to enable one to write prescriptions properly. The student becomes familiar with the Latin names of drugs if he has studied his Materia Medica faithfully. The principal difficulty that he encounters is in making the changes necessary for the correct grammatical wording to the dispenser and the grammatical ending of the ingredients and their quantities.

The following simple rules taken from Mann, will, it is believed, enable one not previously acquainted with Latin, to write proper prescriptions with correct endings.

RULE I. The noun expressing the name of the medicine is put in the genitive case, when the quantity of it to be used is expressed.

RULE II. If no quantity is expressed, but only a numeral adjective follows, the noun is put in the accusative.

RULE III. The quantity is put in the accusative case governed by the imperative *Recipe.*

RULE IV. Adjectives agree with these nouns in gender, number and case.

For every day practice the accusative of the

quantity is seldom written out but is usually expressed by the more convenient symbols. The principal difficulty is the formation of the genitive case. The following rules (Mann) will assist in overcoming the difficulty. They apply only to pharmacopœial nouns.

RULES FOR FORMATION OF GENITIVE CASE.

I. All nouns ending in *a* form the genitive in *æ* as quinina, quininæ. Exception.—*Physostigma, Physostigmatis, Coca* is unchanged. *Folia* is plural, Genitive *Foliorum.*

II. All nouns ending in *us, um, os. on,* form the genitive in *i* as Conium, Conii. Exceptions —*Rhus,* gen. *Rhois, Flos,* gen. *Floris, Erigeron,* gen. *Erigerontis, Fructus, Cornus, Quercus, Spiritus,* do not change.

III. All other nouns of whatever termination make the genitive in *s,* or *is, chloral,* gen. *chloralis.* Some lengthen the termination thus:

as	genitive	*atis* as Acetas,	Acetatis.
is	"	*idis* as Anthemis,	Anthemidis.
o	"	*onis* as Pepo,	Peponis.
x	"	*cis* as Cortex,	Corticis.

There are a few exceptions. *Asclepias,* gen. *Asclepiadis; Mas,* gen. *Maris; Phosphis, Sulphis, etc.* gen. *itis; Mucilago,* gen. *Mucilaginis; Solidago,* gen. *Solidaginis,* etc.

The following words do not change in their *genitive.** *Amyl, Azedarach,* Berberis, *Buchu, Cajuputi,* Cannabis, *Catechu, Condurango,* Cor-

*Those in italics are indeclinable, those in *us* are of the fourth declension; the others are of the third. Apiol and Sumbul are given as indeclinable by some authorities. Dunglison gives Apiolum, i; Sumbul, i; Amyl, Amylis is also given.

nus, *Curare*, Fructus, Digitalis, Hydrastis, *Jaborandi*, *Kino*. *Matico*, Quercus, *Sassafras*, *Sago*, Sinapis, Spiritus.

It is seldom necessary to use the accusative of the nouns expressing the ingredients, only when the quantity is omitted, and a numeral adjective takes its place.

As before stated, the use of the appropriate symbols renders it unnecessary, as a rule, to write out in the accusative the words expressing quantity. Sometimes, however, it is desirable to do so, and the following simple rules for the formation of the accusative of these words are appended:

I. Nouns expressing quantity ending in *a*, are feminine and make the accusative singular in *am* and the plural in *as*. *Example*, Drachma, acc. sing. Drachmam, pl. Drachmas.

II. Those ending in *um* or *us* make the accusative singular in *um*. The accusative plural of those in *us* is *os*, and of those in *um* is *a*. Those in *us* are masculine, those in *um* are neuter.

Congius, acc. sing. Congium, acc. pl. Congios.
Granum, " " Granum, acc " Grana.

The adjectives are declined like the nouns. The numeral cardinal adjectives are indeclinable except unus, duo and tres.

They are thus declined.

	Masculine.	Feminine.	Neuter.
Nom.	unus,	una,	unum.
Gen.	unius,	unius,	unius.
Acc.	unum,	unam,	unum.

	Masculine.	Feminine.	Neuter.
Nom.	duo,	duae,	duo.
Gen.	duorum,	duarum,	duorum.
Acc.	duos,	duas,	duo.
Nom.	tres,	tres,	tria.
Gen.	trium,	trium,	trium.
Acc.	tres,	tres,	tria.

The following is a list of some of the more frequently used numeral adjectives:

	CARDINALS	ORDINALS
1	I Unus	1st Primus
2	II Duo	2nd Secundus
3	III Tres	3rd Tertius
4	IV Quatuor	4th Quartus
5	V Quinque	5th Quintus
6	VI Sex	6th Sextus
7	VII Septem	7th Septimus
8	VIII Octo	8th Octavus
9	IX Novem	9th Nonus
10	X Decem	10th Decimus
11	XI Undecim	11th Undecimus
12	XII Duodecim	12th Duodecimus
13	XIII Tredecim	13th Tertius decimus
14	XIV Quatuordecim	14th Quartus decimus
15	XV Quindecim	15th Quintus decimus
16	XVI Sexdecim	16th Sextus decimus
17	XVII Septendecim	17th Septimus decimus
18	XVIII Octodecim	18th Octavus decimus
19	XIX Novendecim	19th Nonus decimus
20	XX Vigenti	20th Vicesimus
21	XXI Vigenti unum	21st Vicesimus primus
22	XXII Vigenti duo	22nd Vicesimus secundus
30	XXX Triginta	30th Tricesimus
40	XL Quadraginta	40th Quadragesimus
50	L Quinquaginta	50th Quinquagesimus
60	LX Sexaginta	60th Sexagesimus
70	LXX Septuaginta	70th Septuagesimus
80	LXXX Octaginta	80th Octogesimus
90	XC Nonaginta	90th Nonagesimus
100	C Centum	100th Centesimus

The verbs are nearly all used in the imperative mood; being addressed to the compounder. The following are some of the more common examples: *Recipe*, take; *Misce*, mix; *Signa*, mark; *Divide*, divide; *Mitte*, send; *Pone*, put; *Extende*, spread.

A few verbs are, however, in the subjunctive mood of mild command, taking the subject referred to in the nominative case, e.g., *fiat*, plural *fiant*, let be made. *Detur*, plural *dentur*, let be given. *sufficiat*, may suffice. *Repetatur*, let it be repeated.

Only a few prepositions are commonly used; they are *ad*, to; *ana* (*Greek*), abbrev. ā ā, of each; *cum*, with; *in*, into; *ad* and *in* govern the accusative, *cum*, the ablative and *ana* the genitive cases.

The following phrases are used: *Fiat lotio.* Let a lotion be made. *Dividatur in partes æquales.* Let it be divided into equal parts. *Dentur tales doses.* Let such doses be given. *Quantum sufficiat*, abbrev. *q. s.*, as much as may suffice. *Ne repetatur.* Do not repeat.

The following abbreviated prescription may be used, when written out in full and rendered into Latin, to illustrate many of the points already referred to:

℞ Powd. Scammony, ℈ss
" Jalap, gr v
Calomel, gr ii

M. Fiat pulvis purgans.

The prescription is taken from Pereira and Griffiths and when put into Latin would appear and be explained as follows:

℞ =**Recipe** (Take) Active verb; imperative mood, second person singular, agreeing with *Tu* understood; from *Recipio, ere.*	**Pulveris** (of powder). Substantive, genitive singular; from *Pulvis, eris* governed by *Scrupulum.*	**Scammoniae** (of Scammony). Substantive, genitive, singular: from *Scammonia, æ.* Governed by *Pulveris.*	**Scrupulum** (a scruple). Substantive, accusative, singular; from *Scrupulus, i,* governed by *Recipe.*	**Dimidium** (half) Adjective, accusative, singular masculine, from *Dimidius, a, um,* Agreeing with *scrupulum.*
RULE. A personal verb agrees with its nominative in number and preson.	RULE. One substantive governs another signifying a different thing in the genitive.	RULE. And the substance governed may govern another signifying a different thing.*	RULE. A verb signifying activity governs the accusative.	RULE. Adjectives, participles and pronouns agree with the substantive in number, gender and case.
℞ (Understood)	**Pulveris** (of powder) as above. Governed by *grana* Rule as above.	**Jalapae** (of Jalap). Substantive genitive, singular; from *Jalapa, æ.* Governed by *Pulveris.* Rule as above.	**Grana** (grains) Substantive. accusative, plural, neuter; from *granum, i,* governed by *Recipe.* Rule as above.	**Quinque** (five) Adjective, Indeclinable.

*One substantive agrees with another which signifies the *same* thing in case—as *Sodii Chloratis unciam.*

℞ (Understood)

Calomelanos (of calomel). Substantive, genitive singular from *Calomelas*, Κάλός and μὲλός governed by *grana*.

Grana (grains). as above.

Tria (three.) Adjective, accusative, plural, neuter, from *Tres, tres, tria*. Agreeing with *grana*.

Rule as above.

M=**Misce** (Mix) active verb imperative mood, second person singular, agreeing with *Tu* understood; from *misceo, ere*.

Fiat. (Let be made). Verb, subjunctive mood; from *Fio, fis, factus, sum*, vel, *fui, fieri*. Neuter agreeing with *Pulvis*.

Pulvis (a powder.) Substantive, nominative, singular, masculine.

Purgans (purging). Participle, nominative, singular, masculine. Agreeing with pulvis.

A few drugs in a prescription are usually better than many. It is irrational to combine a number of agents (shot gun prescription) without especial attention to the specific action of each.

In constructing a prescription, it is first necessary to decide upon the proper remedial agents; then upon the size of the dose and lastly the number of doses to be given. The prescription on p. 64 written out to show these details would be as follows:

℞

Nucis Vomicæ, (single dose ℥j ×6 =) $\overline{\text{℥vj}}^{\cdot}$

Ferri Sulphatis, (" " ℥j ×6 =) $\overline{\text{℥vj}}^{\cdot\cdot}$

Aloes Barb., (" " ℥ss ×6 =) $\overline{\text{℥iij}}^{\cdot\cdot\cdot}$

Syrupi Zingiberis, q. s.

Mix and make into six balls.

In practice the multiplication of single doses is carried out mentally and the product only is written down.

The Roman numerals should always be used to designate the quantities; thus: i, ij, iij, iv, v, vj, vij, viij, ix, etc. Always dot each *i* to avoid mistakes; the last *i* is usually made in the form of a *j* to show that it is the last of a series.

AN EASY METHOD OF WRITING PRESCRIPTIONS IN THE METRIC SYSTEM (AFTER LEONARD).

In a two ounce prescription a single dose, in grains or minims, is given in the same figures as the total amount of the drug in the prescription

expressed in grams or cubic centimeters, as for example:

℞ Fluidextracti Belladonnæ Radicis
(2 minims dose) = 2 cc.
Potassi Bromidi (8 grains dose) = 8 grams
Aquæ q. s. 2 fluid ounces = 60 cc.

In a two ounce prescription there would be fifteen doses. In a gram or 1 cc. there are approximately 15 grains or minims; the basis is therefore 15 to 1. In a one ounce mixture there would be one half the above amounts; in a four ounce prescription there would be twice the above amounts. Or the same amounts of the drugs may be used in a four, six or eight ounce mixture as for the two ounce mixture and the dose correspondingly doubled, trebled or quadrupled.

COLEMAN'S EASY METHOD OF WRITING PRESCRIPTIONS.

"It may be assumed for the purpose of writing prescriptions, that there are fifteen doses of a teaspoonful each in a 2 ounce mixture; 30 in a 4 ounce mixture; 60 in an 8 ounce mixture. Only in the case of dangerous drugs is a more accurate estimation necessary.

In a 4 ounce mixture, then, with a teaspoonful dose, each dose will contain 1–30 of the total amount of any drug which may be in solution or uniform suspension.

In the case of drugs with a usual dose of about 5 gr. or m., 1 dram may be taken as the basis of calculation.

If 1 dram of a drug be added to a four ounce

mixture, each teaspoonful will contain 1-30 of a dram, or 2 grains or minims.

Taking 2, then, as a unit, it is only necessary to find the multiple of 2 which will give the desired dose and this will represent the number of drams to be put into the prescription.

To take an example,

℞

Tincturæ Opii Camphoratæ, (dose 15 m.)

$2 \times 7\frac{1}{2} = \overline{\overline{3}\,\text{VIJ}}$ ss

Salol, (dose 5 gr.) $2 \times 2\frac{1}{2} = \overline{\overline{3}\,\text{IJ}}$ ss

Misturæ Cretæ, q. s. ad $\overline{3}\,\text{IV}$

M. et Sig.

In a 2 ounce mixture, each teaspoonful will contain 1-15 of a dram, or 4 gr. or m.

In an 8 ounce mixture, each teaspoonful will contain 1-60 of a gr. or m.

From the above statements the following rule may be formulated:

Divide 60 (one dram) by the number of doses in the prescription and multiply the result by the numeral necessary to give the desired dose. This numeral will represent the number of drams to be used.

In the case of drugs with a maximum dose of less than a grain, 1 grain instead of 1 dram may be taken as the basis of calculation. Thus, if one grain be added to a 4 ounce mixture with a teaspoonful dose, each dose will contain 1-30 of a grain."

The above methods are applicable especially in human and canine practice.

LEONARD'S QUICK WAY OF REDUCING PERCENTAGES.

RULE I. Call the numerator of the fraction one grain.

RULE II. Double the first figure of the denominator and call this ounces. This will then give almost mathematically correct reductions.

Thus: 1 to 1,000 would be 1 grain to 2 ounces; 1 to 2,000 would be one grain to 4 ounces; 1 to 3,000 would be 1 grain to 6 ounces; 1 to 4,000 would be 1 grain to 8 ounces; 1 to 5,000 would be 1 grain to 10 ounces and so on. If you want 1 to 500, this would be one grain to 1 ounce—there being 480 (approximately 500) grains or minims to the ounce. One to 100 would be 5 grains to 1 ounce.

By committing these two simple rules to memory, an instantaneous reduction for any percentage mixture can be made to the apothecary's basis."

WEIGHTS AND MEASURES.

Those most generally used by the physicians and pharmacists in the United States are the Troy or Apothecaries' Weights, and the Wine or Apothecaries' Measures. The Metric System, however, has been recognized to such a great extent that it has become a necessity for physicians to become familiar with it.

TROY OR APOTHECARIES' WEIGHTS.

Pound (*Libra*)		Ounce (*Uncia*)		Drachm (*Drachma*)		Scruple (*Scrupulum*)		Grain (*Granum*)
lb. 1	=	12	=	96	=	288	=	5760
		℥1	=	8	=	24	=	480
				ʒ1	=	3	=	60
						℈1	=	gr. 20

WINE OR APOTHECARIES' MEASURES.

Gallon (*Congius*)		Pint (*Octarius*)		Fluidounce (*Fluiduncia*)		Fluidrachm (*Fluidrachma*)		Minim (*Minimum*)
Cong. 1	=	8	=	128	=	1024	=	61440
		O1	=	16	=	128	=	7680
				f℥1	=	8	=	480
						f℥1	=	M 60

AVOIRDUPOIS WEIGHTS.

Pound (*Libra*)		Ounce (*Uncia*)		Grain (*Granum*)
lb. 1	=	16	=	7000
		oz. 1	=	gr. 437½

To avoid misapprehension in the use of the apothecary and avoirdupois systems, the symbols ℔., ℥, ʒ, ℈, should be consistently used for the apothecary and the abbreviation lb., oz., gr., for the avoirdupois. The abbreviation for the Troy pound is characterized by the cross line drawn through the letters ℔ and should always mean twelve ounces, while the avoirdupois pound (lb.) stands for sixteen ounces. The symbol ℥ means an apothecaries' ounce of 480 grains, while "oz." means an avoirdupois ounce of 437½ grains. The grain weight is the same for both systems and the abbreviation gr. will cause no confusion. The grain is therefore the unit in both systems and the term is derived from the old system of weighing, which required that there should be used a "grain of wheat, well dried and gathered out of the middle of the ear." The abbreviation gr., for grain, should be consistently used in the apothecary system, gm. for gram, in the metric system.

In using the metric system of weights the gram is ordinarily used as the standard and the other subdivisions are reckoned from it.

METRIC WEIGHTS.

10 milligrams (mg.)	make 1 centigram	(cg.)
10 centigrams	make 1 decigram	(dg.)
10 decigrams	make 1 gram	(gm.)
1000 grams	make 1 kilogram	(kilo).

METRIC MEASURES.

1000 Cubic centimeters (cc.) (Milliliters) make 1 liter (L.)

1 Gram equals the weight of 1 cc. of distilled water at a temperature of 4° C.

TABLE OF APPROXIMATELY EQUIVALENT WEIGHTS.

1 milligram .001	= 1-64 grain
1 centigram .01	= 1-6 grain
1 decigram .1	= 1½ grains
1 gram	= 15½ grains
4 grams (3.9 gm.)	= 1 dram
30 grams (31.1 gm.)	= 1 ounce
500 grams (453.6 gm.)	= 1 pound (av.)
1 kilogram	= 2 1-5 pounds (av.)
1-64 grain = 1 milligram	= .001 gram
1-6 grain = 1 centrigram	= .01 gram
1 grain	= .065 gram
15.43 grains	= 1. gram
1 dram (apoth.)	= 3.90 grams
1 ounce (apoth.)	= 31.1 grams
1 minim	= .061 cc.
16 minims	= 1. cc.
1 fluidram	= 3.75 cc.
1 fluidounce	= 30. cc.

1 cc.	=16 minims
4 cc. (3.7 cc.)	= 1 fluidram
30 cc.	= 1 fluidounce

To convert grains into centigrams, multiply by 6.5. Thus 3 grains mutliplied by 6.5 equals 19.5 centrigrams, or 10 grains equals 65 centigrams or .65 gram. To convert centigrams into grains divide by 6.5. Thus 26 centigrams divided by 6.5 equals 4 grains.

DOMESTIC MEASURES.

A drop, *gutta*, (gtt.) is usually reckoned at about one minim.

A tea-spoonful is about one fluidram.

A table-spoonful is about one-half fluidounce.

A wine-glassful is about two fluidounces.

A tea-cupful is about five fluidounces.

A breakfast-cupful is about eight fluidounces.

A tumblerful is about eight fluidounces.

Domestic measures vary considerably. There may be from 50 to 150 drops in a fluidram, a tea-spoon generally holds more than one dram, even as much as 2 drams or more. Cups and glasses also vary widely.

THE PRINCIPLES OF COMBINING DRUGS IN A PRESCRIPTION.

Although the tendency in modern therapeutics is toward simplicity rather than complexity in prescriptions, one may go to the extreme even in this direction. There is no doubt but that in very many cases a judicious combination of drugs will produce effects of a beneficial character which might be sought in vain from the use of a single

remedy. A "shot gun" prescription, containing a great number of remedies introduced with the idea that by some lucky chance one or more of the ingredients may *hit* the disorder, is thoroughly unscientific and not to be encouraged.

The rational combination of drugs was, perhaps first discussed fully by Dr. John Ayrton, Paris (Paris Pharmacologia, 1822). His treatment of the question has been so clear and exhaustive, that there has been but little room for improvement. The following paragraphs are based principally upon his work:

1. The Action of a Medicine May be Augmented (Adjuvant Action).

(a) *By combining different forms of the same substance.* An infusion is strengthened by the addition of the fluid extract or tincture of the same drug, in cases where all the active principles are not soluble in the same vehicle. Digitalis may be taken as an example, all of its active principles are not soluble in water.

(b) *By combining the medicine with others which produce similar effects.* A rule enunciated by Dr. Fordyce is to the effect that combination of similar remedies will produce a more certain, speedy, and considerable effect than an equivalent dose of any single one. A combination of chloral and bromide potassium is more certain for hypnotic effects than either one alone. From the standpoint of purgation the same would be true of a combination of aloes and calomel, or as an emetic a mixture of ipecac and tartar emetic is more reliable for its effects than either drug singly.

(c) *By combining with the basis substances of a different nature which can, in some unknown manner enhance its action.* The diuretic effect of squill is increased by calomel, and ipecac assists in the purgative action of jalap.

II. The Action of a Medicine May be Modified (Corrective Action) in Order to Overcome Unpleasant Effects. The griping tendency of purgatives may be corrected by combination with aromatics or essential oils. Acrid substances may be more or less overcome by triturating with mucilage. The constipating effect of iron may be overcome by the addition of aloes. See prescription p. 64.

III. To Obtain the Combined or Joint Action of Two or More Medicines.

(a) *Upon the same tissue.* Purgative medicines will serve as an illustration. Some act by increasing peristalsis, others by augmenting the secretion of the intestines, as in the case of eserine and pilocarpine. The combination of podophyllum with calomel, for their joint action upon the liver, may be cited as another example.

(b) *Upon different tissues or to combat different symptoms.* Probably the greatest number of prescriptions will come under this head. The desire to combat a number of different symptoms should not lead to excess in the combination of drugs. A well directed rifle ball will have a greater effect than a charge from a shot gun where only a few of the shot hit the mark. Some prescriptions have been reported which contained as many as 400

ingredients. The more complicated a prescription, the greater are the chances for failure.

The symptoms of fever with cough may be treated with small doses of ipecac as a sedative expectorant, tincture of aconite to quiet the circulation and allay the fever, with potassium bromide to alleviate excessive coughing. Other cases will readily suggest themselves. It may be desirable, in a given instance to stimulate the heart with one drug and the kidney or bowels with others.

IV. To Form New Compounds the Effects of Which Differ From any of the Individual Constituents. Dover's Powder is a good illustration. This preparation has marked diaphoretic properties, while neither of its constituents, opium or ipecac, when taken separately exert any powerful action upon the skin. "White Lotion" made by dissolving lead acetate and zinc sulphate in water; "Black Lotion" by adding calomel to a solution of lime and "Yellow Lotion" by adding corrosive sublimate to a solution of lime, are also examples.

V. To Afford a Convenient and Agreeable Form of Administration. Solids, such as pills, capsules and powders are oftentimes to be preferred. Liquid preparations are sometimes more desirable and they have the advantage of being more readily absorbed. The main thing, of course, is that the patient should get the proper remedy indicated by the symptoms; but, at the same time, it is the duty of the prescriber to see that it is no more obnoxious than need be. This fact is sometimes lost sight of in veterinary practice,

where the animal may be compelled to take the medicine, but nothing is lost to the patient or prescriber, if the medicine is prepared in as palatable a form as possible without sacrificing anything of its pharmacologic action.

Due care should be exercised in selecting a vehicle which has little or no medicinal action of its own, or if it has that it will assist or correct the action of the medicines prescribed, and, if practicable, one in which the other ingredients are soluble.

The taste of many bitter substances like quinine, and salty drugs like ammonium chloride, may be made more agreeable by the addition of any of the preparations of glycyrrhiza. Caustic or irritating medicines, whether liquid or solid, must be well diluted before being swallowed.

EXAMPLES OF PRESCRIPTIONS.

The following graded scheme for the beginner in prescription writing may be employed: 1st, a prescription written out in Latin is translated into English with the quantities of the ingredients expressed in both the apothecaries and metric systems. 2d. An abbreviated prescription is written out in English, apothecaries and metric. 3d. An abbreviated prescription is written out in Latin; apothecaries and metric. 4th. After a student has studied therapeutics a card is given him bearing the name of a disease, with the basis or principal remedy indicated from which he is to construct a compound prescription suitable for the disease mentioned.

The following prescriptions are given as illustrations of the scheme and serve merely as an outline of the way in which the work may be carried on. The instructor can prepare any number of prescriptions under each grade for the student's exercises.

The various symbols, unusual endings and combinations may be included in such prescriptions for purposes of instruction.

℞ LATIN INTO ENGLISH.

Plumbi Acetatis, unciam
Zinci Sulphatis, drachmas sex
Aquae, ad Octarium.
Misce.
Signa. Fiat lotio alba.

Take

of Lead Acetate,	one ounce	30
of Zinc Sulphate,	six drachms	24
of Water, to	one pint	480

Mix
Signature. Let a white lotion be made.

℞ (For horse)

Aloes, drachmas quatuor
Fluidextracti Bella
donnæ Radicis, semidrachmam,
Zingiberis pulveris, drachmam cum semisse.
Theriacæ, quantum sufficit.
Misce.
Signa. Fiat Bolus.

Take

of Aloes,	four drachms	15
of Fluidextract of Bel-ladonna Root,	half dram	2
of Powdered Ginger,	one and a half drams	6

(Take)

of Molasses, as much as suffices
(sufficient quantity)
Mix.
Signature. Let a bolus be made.

℞ (For dog)

Olei Terebinthinæ	unciæ semissem
Olei Ricini,	unciam cum semisse
Ovum,	unum
Aquae Ferventis,	uncias quatuordecim

Misce et fiat enema.

Take

of Oil of Turpentine,	half of one ounce
of Castor Oil,	one and a half ounces
one Egg,	
of hot water,	fourteen ounces

Mix and let be made into an enema.

℞

Vitellum Ovi,	unius
Olei Morrhuae,	uncias duas
Spiritus Frumenti,	unciam cum semisse
Acidi Phosphorici Diluti,	drachmas tres
Syrupi,	drachmas quinque
Aquae Cinnamoni, quantum sufficiat ad	uncias octo.

Misce et fiat emulsio.

Take

Yolk of one egg.

(Take)

of Cod Liver Oil,	two ounces	60
of Whiskey,	one and a half ounces	45
of Dilute Phosphoric Acid,	three drams	12
of Syrup,	five drams	20
of Cinnamon Water,	as much as may suffice to make (eight) ounces	240

Mix and let an emulsion be made.

℞ (For Dog)

Morphinae Sulphatis, granum
Camphorae,
Pulveris Glycyrrhizae,
Sacchari Lactis, ana grana decem
Misce. Divide in chartulas sex.

Take

of Morphine Sulphate,	one grain	065
of Camphor,		
of Powdered Liquorice Root,		
of Sugar of Milk,	of each ten grains	6

Mix. Divide into six powders.

℞

Pepsinae,	drachmas duas
Vini albi,	uncias septem
Syrupi,	unciam dimidiam
Fluidextracti Zingiberis,	guttas octo

Misce. Fiat Elixir

Take

of Pepsin,	two drams	8
of White Wine,	seven ounces	210
of Syrup,	half an ounce	15
of Fluidextract of Ginger,	eight drops	5

Mix. Let an Elixir be made.

℞

Extracti Nucis Vomicae, grani semissem
Pulveris Scammonii, granum
Pulveris Aloes,
Pulveris Rhei, ana grani tres quartas partes
Alcoholis, quantum sufficit.
Misce. Fac pilulas tales duodecim.

Take

of Extract of Nux Vomica,	half of a grain	032
of Powdered Scammony,	one grain	065
of Powdered Aloes, of Powdered Rhubarb, of each	three-fourths parts of a grain	048

of Alcohol, as much as suffices.
Mix. Make twelve such pills.

EXAMPLES OF ABBREVIATED PRESCRIPTIONS WRITTEN OUT IN ENGLISH IN THE APOTHECARY AND METRIC SYSTEMS.

℞

Ac. Carbol.,
Liq. Iodi. Comp. ā ā m xv
Aq. Chloroformi, q. s. ℥ ii
M.

Take

Carbolic Acid,		
Compound Solution of Iodine,	of each 15 mimims	1
Chloroform Water, sufficient quantity to (make)	2 ounces	60

Mix.

℞

Ac. Sulph. Arom.,
Tr. Opii.,

Spts. Camph., ā ā ℥ vi
M.

Take

Aromatic Sulphuric Acid,		
Tincture of Opium,		
Spirits of Camphor, of each	6 ounces	180

Mix.

℞

Quin. Sulph., ℥ j
Pulv. Belladon. Fol., ℥ ij
Sod. Salicyl.,
Pulv. Cimicif., ā ā ℥ iij
M.
Ft. pulv. No. XII.

Take

Quinine Sulphate,	1 ounce	30
Powdered Belladonna Leaves,	2 ounces	60
Sodium Salicylate,		
Powdered Cimicifuga, of each	3 ounces	90

Mix. Make into 12 powders.

Examples of Abbreviated Prescriptions Written out in Latin in the Apothecary and Metric Systems.

℞

Quin. Sulph.,	℥ ss
F. E. Nuc. Vom.,	℥ ss
Tr. Capsic.,	℥ iij
Ac. Muriat. Dil.,	℥ ivss

M.

℞

Quininae Sulphatis,	unciam	30
Fluidextracti Nucis Vomicae,	unciam	30
Tincturae Capsici,	uncias tres	90
Acidi Muriatici Diluti,	uncias quatuor cum semisse	135

Misce.

℞

Pot. Acet.,	℥ ij
Tr. Digital.,	℥ x
Spts. Ether. Nit.,	℥ v
Aquae, q. s.	O ss

M.

℞

Potassii Acetatis,	uncias duas	60
Tincturae Digitalis,	drachmas decem	40
Spiritus Etheris Nitrosi	uncias quinque	150
Aquae, quantum sufficit	Octarium	480

℞

Quin. Sulph.	℥ ss
Pulv. Opii.	℥ ss ss
Pulv. Ammon. Carb.	℥ ss ss
Pulv. Camph.	℥ ss

M. Make 12 powders.

℞

Quininae Sulphatis,	unciam	30
Pulveris Opii,	drachmas duas	8
Pulveris Ammonii Carbonatis,	uncias duas	60
Pulveris Camphorae,	unciam	30

Misce. Fiant pulveres numero duodecim.

The next step in the series is the construction of the prescription according to its indication for a given disorder, the basis being mentioned and allowing the student to fill in the other ingredients. The writer has found the following list serviceable in this connection, due regard being given to incompatibility, form, case endings, etc. The prescriptions may be written out in the ordinary abbreviated form or in Latin in the Apothecary or Metric systems. Any variety of subjects or combinations are available and excellent drill is furnished to the student.

Indication.	Basis,
Gastric Tonic.	Gentian.
Diuretic.	Potassium Nitrate.
Cardiac Tonic.	Digitalis.
Influenza.	Tr. Nux. Vomica.
Irritable Stomach.	Bismuth.
Skin Disease.	Fowler's Solution.
Blister.	Cantharides.
Hepatic Congestion.	Sodium Sulphate.
Purgative.	Barium Chloride.
Diaphoresis.	Tr. Arnica Root.
Sedative.	Chloral.
Cathartic.	Eserine Sulphate.
Anodyne Liniment.	Tr. Aconite.
Round Worms.	Santonin.
Fever.	Acetanilid.
Mange.	Sulphur.
Cough.	Belladonna.
Rickets.	Oleum Phosphoratum.
Purgative.	Aloes.
Flat Worms.	Male Fern.
Indigestion.	Pepsin.
Diarrhoea.	Tr. Opium.
Anemia.	Iron Sulphate.
Rheumatism.	Sodium Salicylate.
Edema.	Potassium Acetate.
Diabetes Insipidus.	Iodine.
Catarrhal Fever.	Quinine.
General Tonic.	Nux Vomica.
Counter Irritant.	Aqua Ammonia.
Intestinal Antiseptic.	Salol.
Chorea.	Arsenic.

TABLE OF THERMOMETRIC EQUIVALENTS

FAHRENHEIT AND CENTIGRADE SCALES

To reduce Centigrade degrees to those of Fahrenheit
Multiply by 9, divide by 5, and add 32

To reduce Fahrenheit degrees to those of Centigrade scale
Subtract 32, multiply by 5, and divided by 9

TABLE OF EQUIVALENTS

°Centigrade.	°Fahrenheit.	°Centigrade.	°Fahrenheit.	°Centigrade.	°Fahrenheit.
—25	—13.	0	32.	25	77.
—24	—11.2	1	33.8	26	78.8
—23	—9.4	2	35.6	27	80.6
—22	—7.6	3	37.4	28	82.4
—21	—5.8	4	39.2	29	84.2
—20	—4.	5	41.	30	86.
—19	—2.2	6	42.8	31	87.8
—18	—0.4	7	44.6	32	89.6
—17	1.4	8	46.4	33	91.4
—16	3.2	9	48.2	34	93.2
—15	5.	10	50.	35	95.
—14	6.8	11	51.8	36	96.8
—13	8.6	12	53.6	37	98.6
—12	10.4	13	55.4	38	100.4
—11	12.2	14	57.2	39	102.2
—10	14.	15	59.	40	104.
—9	15.8	16	60.8	41	105.8
—8	17.6	17	62.6	42	107.6
—7	19.4	18	64.4	43	109.4
—6	21.2	19	66.2	44	111.2
—5	23.	20	68.	45	113.
—4	24.8	21	69.8	46	114.8
—3	26.6	22	71.6	47	116.6
—2	28.4	23	73.4	48	118.4
—1	30.2	24	75.2	49	120.2

°Centigrade.	°Fahrenheit.	°Centigrade.	°Fahrenheit.	°Centigrade.	°Fahrenheit.
50	122.	73	163.4	96	204.8
51	123.8	74	165.2	97	206.6
52	125.6	75	167.	98	208.4
53	127.4	76	168.8	99	210.2
54	129.2	77	170.6	**100**	**212**
55	131.	78	172.4	101	213.8
56	132.8	79	174.2	102	215.6
57	134.6	80	176.	103	217.4
58	136.4	81	177.8	104	219.2
59	138.2	82	179.6	105	221.
60	140.	83	181.4	106	222.8
61	141.8	84	183.2	107	224.6
62	143.6	85	185.	108	226.4
63	145.4	86	186.8	109	228.2
64	147.2	87	188.6	110	230.
65	149.	88	190.4	111	231.8
66	150.8	89	192.2	112	233.6
67	152.6	90	194.	113	235.4
68	154.4	91	195.8	114	237.2
69	156.2	92	197.6	115	239.
70	158.	93	199.4	116	240.8
71	159.8	94	201.2	117	242.6
72	161.6	95	203.	118	244.4

The following is a list of official deliquescent and efflorescent salts:

DELIQUESCENT SALTS	EFFLORESCENT SALTS
Ammonii Iodidum	Alumen (slightly)
Nitras	Ammonii Carbonas
Valerianas	Phosphas
Auri Chloridum	Antim. et Potass. Tartras (slightly).
Calcii Chloridum	Cupri Acetas
Lithii Citras	Sulphas
Bromidum	Magnesii Sulphas (slightly)
Salicylas	Potassii et Sodii Tartras (slightly)
Magnesia Citras	Ferrocyanidum (slightly)
Potassa (caustic)	Quininae Bisulphas
Cum Calce	Sulphas (after a time)
Potassii Acetas	Soda (caustic)
Carbonas	Sodii Acetas
Citras	Arsenas (slightly)
Cyanidum	Benzoas
Hypophosphis	Boras (slightly)
Sulphis	Carbonas
Tartras	Hyposulphis
Quinolin salts (except the Tartrate)	Phosphas
Sodii Hypophosphis	Santoninas (slightly)
Iodidum	Sulphas
Zinci Bromidum	Sulphis
Chloridum	Strychninae Sulphas
Iodidum	Zinci Acetas
	Sulphas

For the various symbols, Latin words and phrases with their abbreviations see the following pages.

LATIN WORDS AND PHRASES WITH THEIR ABBREVIATIONS AND ENGLISH EQUIVALENTS.

Words or Phrases	Contractions	Eng. Equivalents
Abdomen	Abd.	The belly.
Ad	Ad.	To, or up to.
Adde	Add.	Add.
Addantur	Add.	Let(them) be added.
Addendus	Add.	To be added.
Addendo	Add.	By adding.
Adhibendus	Adhib.	To be administered.
Adjacens	Adjac.	Adjacent.
Ad libitum	Ad lib.	At pleasure.
Admove	Admov.	Apply.
Admoveatur	Admov.	Let (it) be applied.
Adversum	Adv.	Against
Aliquot	Aliq.	Some.
Alter	Alt.	The other.
Alternis horis	Alt. hor.	Every other hour.
Amplus	Amp.	Large.
Ampulla	Ampul.	A large bottle.
Ana.	A. or aa.	Of each.
Aqua	Aq.	Water.
Aqua bulliens	Aq. bull.	Boiling water.
Aqua communis	Aq. com.	Common water
Aqua fervens	Aq. ferv.	Hot water.
Aqua fluviatilis	Aq. fluv.	River water.
Aqua fontalis	Aq. font.	Spring water.
Aqua marina	Aq. mar.	Sea water.
Aqua nivalis	Aq. niv.	Snow Water.
Aqua pluvialis	Aq. pluv.	Rain water.
Aut.	Aut.	Or.
Balneum vaporis	B. V.	Vapor bath.
Balsamum	Bals.	Balsam.
Bene	Bene.	Well
Bibe	Bib.	Drink (thou)
Biduum	Bid	Two days.
Bis	Bis	Twice.
Bis in die, or dies	Bis. die	Twice a day.
Bolus	Bol.	A large pill.
Bulliat or Bulliant	Bull.	Let boil.
Butyrum	But.	Butter.
Cæruleus	Cœrul.	Blue.

Calefactus	Calef.	Warmed.
Cape	Cap.	Take (thou).
Capiat	Cap.	Let him take.
Capsula	Capsul	A capsule.
Caute	Caute	Cautiously.
Charta	Chart	Paper.
Chartula	Chartul.	A small paper.
Cibus	Cib	Food.
Cochlear or Cochleare	Coch.	A spoonful.
Cochleare amplum	Coch. amp.	A dessertspoonful.
Cochleare magnum	Coch. mag.	A tablespoonful.
Cochlear parvum	Coch. parv.	A teaspoonful.
Cola	Col.	Strain.
Colatus	Colat	Strained.
Collutorium	Collut.	A mouth wash.
Collyrium	Collyr.	An eye wash.
Coloretur		Let it be colored.
Compositus	Comp.	Compounded.
Concisus	Concis.	Cut.
Congius	Cong.	A Gallon.
Conserva	Cons.	A conserve, also, Keep (thou).
Contusus	Contus.	Bruised.
Cor, Cordis	Cor.	The heart.
Cortax, corticis	Cort.	The bark.
Coxa	Cox.	The hip.
Cras, crastinus	Crast.	To-morrow.
Cujus, cujus-libet	Cuj.	Of which, of any.
Cum	C.	With.
Cyathus, vel Cyathus vinarius	Cyath, C.vin ar	A wine-glass.
Da, detur	D., det.	Give, let be given.
De	De	Of or from.
Debitus	Deb.	Due, proper.
Decanta	Dec.	Pour off.
Decem, decimus	Decem.	Ten, the tenth.
Decoctum	Decoct.	A decoction.
Decubitus	Decub.	Lying down.
De die in diem	De d. in d.	From day to day.
Dein vel Deinde	Dein	Thereupon.

Deglutiatur	Deglut.	Let be swallowed.
Dentur tales doses No, iv	D.t.d. No iv.	Let 4 such doses be given.
Dexter, Dextra	Dext.	The right.
Diebis alternis	Dieb. alt.	Every other day.
Dilue, Dilutus	Dil.	Dilute (thou), Diluted.
Dimidius	Dim.	One-half.
Dividatur in partes æquales	D. in p. aeq.	Let it be divided into equal parts.
Dividendus-a-um	Divid.	To be divided.
Dolor	Dolor.	Pain.
Donec	Donec.	Until.
Dosis	D.	A dose.
Drachma	Dr. or ʒ	A dram (60 grains).
Eadem (fem.)	Ead.	The same.
Ejusdem	Ejusd	Of the same.
Electuarium	Elect.	An electuary.
Emesis	Emesis	Vomiting.
Enema	En.	A clyster or enema.
Et	Et.	And.
Extende	Ext.	Spread.
Extractum	Extr.	An extract.
Extrahe	Extrahe	Extract thou.
Fac	F.	Make.
Fac pilulas duodecim	F. pil. XII	Make twelve pills.
Farina		Flour.
Febris	Febr.	Fever.
Fervens	Ferv	Boiling.
Fiat	Ft.	Let be made (sing).
Fiant	Ft.	Let be made (plu.).
Filtra	Filtra	Filter (thou).
Fluidus	Fluid., Fl.	Liquid.
Formula		A prescription.
Gargarysma	Garg.	A gargle.
Gradation	Grad.	By degrees, gradually.
Granum, Grana	Gr.	Grain, Grains.
Gratus	Grat.	Pleasant
Gutta, Guttæ	Gtt.	A drop. Drops.
Guttatim	Guttat.	By drops.

Haustus	Haust.	A draught.
Hebdomada	Hebdom	A week.
Herbarum recentium	Herb. recent	Of fresh herbs.
Hic, Haec, Hoc	*Hic, hæc, hoc*	This.
Hirudo	Hirudo	A leech.
Hora	H.	An hour.
Idem	Id.	The same.
Imprimis	Impr.	First.
Incide, Incisus	Inc.	Cut (thou), Being Cut.
In dies	Ind.	Daily, or from day to day.
Infunde	Infun.	Pour in.
Infusum	Infus	An infusion.
Injection		An injection.
In Pulmento		In gruel.
Instar	Instar	As big as, the size of.
Inter	Inter.	Between.
Internus,-a-um	Int.	Inner or internal.
Intus	Intus.	Inwardly.
Jam	Jam	Now.
Juxta	Juxta	Near to.
Lac, Lactis	Lac.	Milk, of Milk.
Lagena	Lag.	A flask or bottle.
Langour	Lang.	Faintness.
Libra	Lb., or lb	A pound.
Linimentum	Linim.	A liniment.
Linteum	Lint.	Lint.
Liquor	Liq.	A solution.
Lotio	Lot.	A lotion.
Macera	Mac.	Macerate.
Magnus	Mag.	Large.
Mane	Mane	In the morning.
Manipulus	M. or Man	A handful.
Manus	Manus	The hand.
Massa, massa pilularis		A mass, a pill-mass.
Matutinis	Matut	In the morning.
Medium	Med.	Middle.
Mensura	Mensu	By Measure.
Mica Panis	Mic. pan.	Crumb of beard.

Minimum	M. or min.	A minim.
Minutum		A minute.
Misce	M.	Mix.
Mistura	Mist.	A mixture.
Mitte	Mit.	Send.
Modo præscripto	Mod. præsc	In the manner prescribed.
More dictu	Mor. dictu.	In the manner directed.
More solito	Mor. sol.	In the usual manner.
Mortarium, i	Mort.	A mortar.
Necnon	Necn	Also.
Ne trades sine numero	Ne.tr.s.num	Do not deliver without the money.
Nisi	Nisi	Unless.
Non	Non.	Not.
Non repetatur	Non repetat.	Let it not be repeated.
Nox. Noctis	Noc. noct.	The night, of the night.
Nucha		The nape of the neck.
Numero	No.	In number.
Octarius	O. Oct.	A pint (℥xvj)
Octavus		Eight.
Octo	Octo.	Eight.
Omni hori	Omn. hor.	Every hour.
Opus	Opus	Need, or occasion.
Ovum	Ov.	An egg.
Pars, Partis	Par. Pt.	A part, of a part.
Partes æquales	Pt. æq.	Equal parts.
Parvulus	Parvul.	An infant. A parvule.
Parvus		Little.
Pastillus	Pastil.	A pastille.
Pediluvium		A foot-bath.
Penicillum camelinum	Pencil. cam.	A camel's hair pencil or brush.
Per	Per.	Through, By.
Phiala	Phil	A vial or bottle.
Phiala prius agitate	P. P. A.	The bottle having been first shaken.

Pilula	Pil.	A pill.
Pocillum	Pocill.	A little cup.
Poculum	Pocul.	A cup.
Pondere	P.	By weight.
Pondus civile	P. civ.	Civil weight (avoirdupois).
Pondus medicinale		Medicinal (apothecaries) Weight.
Post cibo	Post cib.	After eating.
Potus	Potus.	Drink.
Præparata	Præp.	Prepared.
Primus	Primus	The first
Pro	Pro.	For.
Pro re nata	P. r. n.	Occasionally, according to circumstances.
Pulvis	Pulv.	A powder.
Quadrans-antis	Quad.	A quart.
Quantum libet	Q. lib.	As much as you please.
Quantum sufficiat	Q. s.	As much as may suffice.
Quaque	Qq.	Each, or Every.
Quartus	Quart.	Fourth.
Quatuor	Quat.	Four.
Quibus	Quibus	From which.
Quinque	Quinq.	Five.
Quintus	Quint.	The fifth.
Quoque	Q. Q.	Also.
Quorum	Quor.	Of which.
Quotidie	Quotid.	Daily.
Ratio		Proportion.
Recens,-entis	Rec.	Fresh.
Recipe	℞	Take.
Reductus in pulverem	Red.in pulv.	Let it be reduced to powder.
Reliquum	Reliq.	Remaining.
Repetatur	Rept.	Let it be repeated.
Retinere	Retin.	To keep.
Ruber, rubra, rubrum	Rub.	Red, ruddy.
Saltem	Saltem	At least.

Saltim	Saltim	By leaps.
Saturatus-a-um	Sat.	Saturated.
Scatula	Scat	A box.
Scilicet	Scil.	Namely.
Scrupulum	Scrup. or ℈	A scruple (20 grs.)
Secundem artem	S. A.	According to art.
Secundus	Secund.	Second.
Semel	Semel	Once.
Semis or *semissis*	Ss.	A half.
Septem	Sept.	Seven.
Septimana	Septim.	A week.
Sescuncia		An ounce and a half.
Sesquihora		An hour and a half.
Sex	Sex	Six.
Si	Si	If.
Signa	Sig.	Write, or Mark (thou).
Signatur nomine proprio	Sig.nom.pro	Let it be written with its proper name.
Simul	Simul	Together.
Sine	Sin.	Without.
Singulorum	Sing.	Of each.
Si opus sit	Si op. sit.	If necessary.
Sit	Sit.	Let it be.
Solus	Sol.	Alone.
Solve	Solv.	Dissolve.
Somnus	Somnus	Sleep.
Spiritus vini rectificatus	Spt.vin.rect.	Rectified spirit of wine (alcohol)
Spiritus vini tenuis	Spt. vin. ten.	Proofspirit.
Statim	Stat.	Immediately.
Stet. or Stent.	St.	Let it (or them) stand.
Subinde	Subind	Frequently.
Sumat talem	Sum. tal.	Let him take one like this.
Sume	Sum.	Take.
Supra	Supra.	Above.
Tabella	Tab.	A lozenge.
Talis	Tal.	Such a one.

Ter	Ter.	Thrice, or Three times.
Ter in die, or *Ter die*	T.i.d.or T.D	Thrice daily.
Tero	Tero	I rub.
Tere simul	Tere sim.	Rub together.
Tertius	Tert.	Third.
Tinctura	Tinct. or Tr.	Tincture.
Tres	Tres.	Three.
Triduum	Trid.	Three days.
Tritura	Trit.	Triturate.
Troschiscus, Trochisin	Troch.	A lozenge or troche.
Tussis	Tus.	A cough.
Ultimo (or *Ultima*) *præscriptus*	Ult. præsc.	The last ordered
Una	Una	Together.
Uncia	Unc. or ℥	An ounce.
Ut dictum	Ut. dict.	As directed.
Vas vitreum	Vas vit.	A glass vessel.
Vehiculum	Vehic.	A vehicle or menstruum.
Vel	Vel.	Or.
Vesper-eris	Vesp.	The evening.
Vices	Vic.	Turns.
Vinum	Vin.	Wine.
Vires	Vir.	Strength
Vitellus	Vitel	Yolk.
Vitreum, Vitrum	Vitr.	Glass.
Volatilis, is, Volatile	Volat.	Volatile

INCOMPATIBILITY.

In prescription writing, incompatibility may be defined as an interference, with each other, of the constituents of a mixture in a way not intended by the prescriber. Sometimes there is *intentional* incompatibility by the prescriber as in the case of white lotion, p. 81.

There are three types of incompatibility: Chemic, Pharmaceutic and Physiologic.

Chemic Incompatibility occurs when a new chemic compound results. In general it may be recognized in one of three ways: 1. By precipitation —the formation of an insoluble compound. 2. By effervescence or explosion—evolution of gas. 3. By a change in color. Another form may be referred to, because it is not easy to recognize any change and therefore more dangerous. A new product may be formed, possibly of a poisonous nature and remain in solution without in the least changing the appearance of the mixture. The avoidance of this form of incompatibility rests upon a knowledge of the ordinary chemic reactions, and the knowledge cannot be too greatly emphasized. Chemic incompatibility is not always evident immediately, some little time may elapse before changes occur. A general rule is that substances are incompatible if they are used in testing for each other or if they form antidotes.

Pharmaceutic Incompatibility results in the production of an unsightly appearance due to *physical* changes. It is, therefore, largely a question of solvents and solubility, and often occurs when

solids or liquids are added to solutions, thereby changing their densities. It occurs when there is a combination of such substances as are physically incapable of mixing; thus, if spirit of nitrous ether be added to tincture of guaiacum a gelatinous mass will result, or if resinous tinctures be added to aqueous solutions the resins will separate.

Physiologic or Therapeutic Incompatibility depends upon the *antagonistic* or opposite physiologic or therapeutic actions of the drugs, so that one drug may weaken or neutralize the action of another with regard to its effects upon the tissues. Atropine and pilocarpine are examples of antagonists therapeutically. No two drugs, however, are exactly opposed to each other throughout their whole range of action, and more or less latitude in this respect may be permitted in prescribing.

Incompatibility must always be kept in mind in writing a prescription. It is best avoided, as a rule, by not attempting to combine too many drugs. Some general principles which it is well to keep in mind may be formulated as follows:

Acids should not be added to alkalies, alkaline salts or vegetable acids on account of decomposition and chemic change.

Solutions of alkaloids are incompatible with tannic acid, alkalies, alkaline salts, iodides and bromides on account of precipitation.

Glucosides (Digitalin, Salicin, etc.) are decomposed by acids.

A mixture of salts in solution will decompose if either an insoluble compound or double salt can be formed.

Chloral is incompatible with alkaline solutions, chloroform is produced.

Potassium chlorate, nitrate or permanganate liberate oxygen and should not be mixed with readily oxidizable substances, such as charcoal, sugar, sulphur, glycerin, carbolic acid, iodine, turpentine, and organic materials, lest explosive compounds be formed.

Lime water precipitates mercury salts. Calomel and prussic acid form the poisonous mercuric cyanide.

Calomel should not be combined with nitro-hydrochloric acid as corrosive sublimate may be produced. Both calomel and antipyrin are incompatible with sweet spirit of nitre.

Liquid iron preparations are incompatible with fluid preparations of the vegetable bitters (except calumba and quassia), because the tannic acid in them forms a precipitate.

Considerable quantities of acid are incompatible with tinctures, because ethers are formed.

Water causes precipitates with tinctures containing resins.

Gum arabic is incompatible with lead and iron salts and mineral acids.

Solutions of potassium chlorate and iodide unite to form a poisonous compound.

For convenient reference, the following list of the more important incompatibles, taken from Merck's Report Ready Reference, is given.

ACACIA—mineral acids; alcohol; ammonia; antimony and potassium tartrate; borax (unless syrup or glycerin is present); ether; ferric salts

(not if excess of acid present); lead subacetate (not acetate); lead-water; mercuric chloride (concent. sol.); potassium bitartrate and tartrate; silicates; syrup squill; tinct. guaiac (blue color), tinctures (alcoholic and ethereal).

Acetanilid—amyl nitrate; bromine and bromides of alkalies; carbolic acid; chloral hydrate; iodides of alkalies; nitrites; piperazine; potassium hydroxide; pyrocatechin; resorcin; sodium hydroxide; spirit nitrous ether; thymol.

Acids—alcohol (with strong acids); alkalies; alkaloids; benzoates and borates (with strong acids); bismuth and ammonium citrate; bicarbonates; bromides (of weak acids); carbonates; chlorides (of weak acids); iodides (of weak bases); metallic salts (with organic acids); pancreatin; potassium and sodium tartrate; potassium tartrate; salicylates; silicates.

Acid, Arsenous—copper sulphate; decoction cinchona; dialyzed iron; ferric hydrate; lime water; salts of aluminium, antimony, barium, calcium, chromium, copper, lead, magnesium, mercury, silver, zinc; potassium iodide; tannic acid; vegetable astringent decoctions and infusions.

Acid, Benzoic—free bromine or chlorine; ferric salts; hydrogen dioxide with sulphuric acid; urethane.

Acid, Boric—alkaline hydrates; alkaline earths (hydrates); carbonates. See aso Borates.

Acid, Carbolic—acetanilid; albumin; antipyrin; antisepsin; bromal hydrate; bromine water;

butyl chloral hydrate; camphor; camphor monobromated; chloral hydrate; collodion; diuretin; exalgin; ferric salts; gelatin (in dilute solution); hydrogen dioxide; lead acetate; menthol; naphtalin; naphtol; nitric acid; phenacetin; potassium permanganate; pyrogallol; resorcin; salol; sodium phosphate; thymol; urethane; terpin hydrate.

Acid, Chromic—alcohol; bromides; chlorides; ether; glycerin; hypophosphites; iodides; oxalates; sulphides; sulphites; tartrates. See also chromates.

Acid, Citric—acetates; acids (mineral); carbonates; potassium tartrate; sulphides. See also citrates.

Acid, Gallic—arsenic acid; carbonates; copper salts; ferric salts (if excess of acid absent); gold salts; lead acetate; iodine; lime water; nitric acid; opium in solution; potassium permanganate; silver salts; sodium bicarbonate; tartar emetic.

Acid, Hydrochloric—alkalies; bromates; carbonates; chlorates; chromates; lead salts; mercurous salts; oxides; permanganates; silver salts; tartar emetic. See also chlorides.

Acid, Hydrocyanic, Dilute—acids (mineral); antimony oxide; copper and iron salts; mercury oxide; silver nitrate; sulphides. See also cyanides.

Acid, Lactic—albumin; milks; oxidizers generally.

Acid, Nitric—alcohol, alkalies; carbonates; ferrous sulphate; lead acetate; oils (essential); sulphides.

Acid, Osmic—all organic or oxidizable substances; iodides.

Acid, Oxalic—arsenates; gold salts; metallic salts generally (all but those of aluminium, chromium and magnesium).

Acid, Phosphoric, Meta—albumin; ferric chloride; gelatin; lead acetate; silver nitrate.

Acid, Phosphoric, Ortho—chlorides of barium, calcium and magnesium (in ammoniacal solutions); lead acetate; silver nitrate; soluble iron phosphate; and pyrophosphate.

Acid, Picric—albumin; alkaloids; gelatin; oxidizable substances; piperazine.

Acid, Salicylic—Ferric salts; exalgin; lead acetate; lime water; potassium iodide; quinine salts; sodium phosphate; spirit nitrous ether; urethane.

Acid, Sulphuric—alcohol; barium and calcium salts; carbonates; hypophosphorus acid; metals; oils (essential); lead, mercurous, silver and strontium salts; organic substances; sulphides; vegetable astringent infusions.

Acid, Tannic—albumin; alkaloids; amyl nitrate; antipyrin; arsenic acid; bromine; calcium chloride (concent. solution); chlorine; chromic acid; ferric salts; gelatin; glucosides; gluten; hydrochloric acid; iodine; iodoform; lime water; nitric acid; permanganate; piperazine; salts of antimony, bismuth, chromium, copper, gold, lead, mercury and silver; spirit nitrous ether; potassium chlorate or other oxidizers; sulphuric acid; potassium bichromate.

ACID, TARTARIC—alkalies; calcium salts; carbonates; lead salts; lime water; mercury salts; vegetable astringents.

ACONITINE—hot acids, alkalies or water. *Antagonists:* atropine; digitalis; morphine; scoparin; strychnine. See also alkaloids.

ALBUMIN—acetic acid (with heat); alcohol; alum; ammonium sulphate; camphor; carbolic acid; coniine; collodion; copper sulphate; ether; ferric chloride; heat; hydrogen peroxide; lactic acid; mercuric chloride; metallic salts; metaphosphoric acid; mineral acids; picric acid; tannic acid; thymol; volatile oils.

ALCOHOL—acacia; albumin; bromine; chlorine; chromic acid; inorganic salts; mercuric chloride; mineral acids; potassium permanganate. *Antagonists*: Cocaine; strychnine.

ALKALOIDS—alkalies; alkali carbonates and bicarbonates; ammonium chloride; benzoates; bichromates; bromides; borax; cyanides; gold chloride; ichthyol; iodides; mercuric chloride; oxalic acid; picric acid; piperazine; potassiomercuric iodide (not if acacia present); oxidizers; sodium phosphate; tannic acid; salicylates.

ALOES—mercury nitrate; silver nitrate.

ALOIN—Alkali hydrates; bromine water; ferric chloride; lead acetate, basic (not neutral); tannic acid.

ALUM—alkali hydrates; borax; carbonates; galls; kino; lead acetate; lime water; magnesia and magnesium carbonate; mercury salts; phosphates; tartaric acid; potassium; chlorate.

AMMONIUM CARBONATE—acid salts; alkalies; alum; calomel; copper, iron, lead and silver salts; magnesia; magnesium sulphate; mercuric chloride; potassium bitartrate and bisulphate; tartar emetic; zinc sulphate. See also carbonates.

AMYL NITRITE—alcohol; antipyrin; caustic potassa. *Antagonists:* chloroform, cocaine; morphine; strychnine.

ANGUSTURA—acids (mineral); cinchona infusion; copper sulphate; galls infusion; ferrous sulphate; lead acetate; mercuric chloride; silver nitrate; catechu infusion; zinc sulphate.

ANTHEMIS—cinchona infusion; gelatin; iron salts; lead salts; mercuric chloride; silver nitrate.

ANTIMONY AND POTASSIUM TARTRATE—acacia; acids (mineral); albumin; alcohol; alkalies; ammonia; ammonium carbonate; antipyrin; bicarbonates; calcium chloride; carbonates; gelatin; lead salts; lime water; mercuric chloride; metallic salts; sulphides; tannic acid; vegetable decoctions and infusions.

ANTIMONY SULPHIDE—chlorates and other oxidizers; nitric acid.

ANTIPYRIN—alum; ammonia water; amyl nitrite; benzoates; beta naphtol; bromine; carbolic acid; calomel; chloral hydrate; copper sulphate; chromic acid; cinchona alkaloids; euphorin; ferric chloride; ferrous sulphate; hydrocyanic acid; iodides; iodine; lead subacetate; mercuric chloride; potassium permanganate; pyrocatechin; pyrogallol; resorcin; sodium bicarbonate; sodium salicylate; solution arsenic and mercury iodide; spirit nitrous ether; syrup ferrous

iodide; tartar emetic; tannic acid; thymol; urethane; infusions of catechu, cinchona, rose leaves and uva ursi; tinctures of catechu, cinchona, hamamelis, iodine and rhubarb; orthoform.

Apomorphine Hydrochloride—alkali hydrates and carbonates; alkaloidal reagents generally; ferric chloride; iodides; lime water; permanganates; picric acid; silver nitrate; tannic acid. *Antagonists:* chloral hydrate; chloroform; strychnine.

Aristol—Water; substances having affinity for iodine.

Arnica—acids (mineral); ferrous sulphate, lead acetate; zinc sulphate.

Arsenates—hypophosphites; iodides and sulphides in acid solutions; salts of aluminium, antimony, barium, calcium, chromium, copper, lead, mercury, silver, and zinc in neutral solutions; tannic acid; iron salts.

Arsenic—See acid arsenous.

Arsenic Iodide—alkaloids generally.

Arsenites—dialyzed iron; ferric hydrate; hypophosphorus acid and hypophosphites (in acid solution); salts of heavy metals; tannic acid; copper sulphate; potassium iodide; silver nitrate; sulphides; vegetable astringent decoctions and infusions.

Atropine—See belladonna.

Balsam Peru—ferric salts; iodoform; hydrogen peroxide.

Barium Salts—carbonates; chromates; oxalic acid or oxalates; phosphoric acid or phosphates;

sulphuric acid or sulphates; tannic acid; tartaric acid or tartrates.

Belladonna—alkaloidal precipitants; alkali hydrates or acids with heat; tannic acid; vegetable decoctions or infusions. *Antagonists:* Aconitine; bromal hydrate; chloral hydrate; hydrocyanic acid; jaborandi; morphine; muscarine; physostigmine; phytolacca; pilocarpine; quinine.

Benzaldehyde—ammonia water; caustic potassa; phenol, resorcin or pyrocatechin in absence of hydrochloric acid; sodium bisulphite.

Benzoates—acids; ferric salts.

Benzoin—acids; alkalies; water.

Berberine Salts—alkaloidal precipitants, soluble tartrates.

Bicarbonates—like carbonates.

Bismuth and Ammonium Citrate—acids.

Bismuth Subgallate—acids.

Bismuth Subnitrate—alkali carbonates and hydrates; calomel; hypophosphites; gallic acid; iodides; salicylic acid; sulphur, tannic acid.

Borates—acids (mineral); alkaloidal salts; metallic salts.

Bromal Hydrate—acetamide; borneol; carbolic acid; exalgin; menthol; pyrocatechin; urea; urethrane. *Antagonist:* Atropine.

Bromides—acids; alkaloids; antimony salts; bismuth salts; chlorine water; chlorates (in acid solution); chromates (in acid solution); copper, lead, mercurous, and silver salts; spirit nitrous ether (if acid); nitric acid.

Bromine Water—alkali hydrates; arsenites; ferrous salts; hypophosphites; hydriodic acid; mercurous salts.

Broform—caustic alkalies; aqueous liquids.

Buchu—ferrous sulphate; infusion galls.

Butyl-chloral Hydrate (Croton-chloral Hydrate)—acetamide; alkalies; camphor; carbolic acid; exalgin; menthol; piperazine; pyrocatechin; thymol; urethane.

Cadmium Salts (Soluble)—alkalies, carbonates; chromates; phosphates; sulphides.

Caffeine—like alkaloids in general. *Antagonists:* chloral hydrate; cocaine; morphine; physostigmine.

Calcium Carbonate—acids; alum; ammonium chloride.

Calcium Salts (Soluble)—alkalies; carbonates; citrates (with heat); oxalates; phosphates; tartrates.

Calomel—See mercurous chloride.

Calumba—acids (mineral); ammonia; cinchona infusion; galls infusion; ferric salts; lead acetate; lime water; mercuric chloride; silver nitrate; tartar emetic.

Camphor—butyl-chloral hydrate; carbolic acid; chloral hydrate; chromic acid; dichloracetic acid; euphorin; hydrochloric acid; menthol; monochloracetic acid; naphthol; potassium permanganate; pyrocatechin; pyrogallol; resorcin; salol; salicylic acid; thymol; urethane; water.

Camphor, Monobromated—carbolic acid; chloral hydrate; euphorin; pyrocatechin; salol; thymol.

CANTHARIDIN—copper sulphate; lead acetate; mercuric chloride; silver nitrate.

CAPSICUM—alum; ammonia; carbonates (alkaline); copper sulphate; ferrous sulphate; galls infusion; lead acetate; mercuric chloride; silver nitrate; zinc sulphate.

CARBONATES—acids; acid salts; alkaloidal salts; bismuth subnitrate; salts of aluminium, antimony, barium, bismuth, cadium, calcium, chromium, cobalt, copper, iron, (ic and ous), lead, manganese, mercury (ic and ous), nickel, silver, strontium and zinc; urethane.

CARDAMOM—acids; ferrous sulphate; mercuric chloride.

CATECHU—acids (mineral); albumin; alkalies; calcium salts; cinchona infusion; ferric and ferrous salts; gelatin; lime water; mercuric chloride; zinc sulphate.

CHARCOAL—all oxidizers (potassium chlorate, potassium permanganate, etc.).

CHLORAL HYDRATE—acetanilid; alcohol; alkalies; ammonium salts; borax; borneol; camphor; camphor monobromated; carbolic acid; diuretin; euphorin; exalgin; glycerin (with heat); lead acetate; menthol; mercuric oxide and nitrate; phenacetin; piperazine; potassium cyanide; potassium permanganate; potassium iodide; pyrocatechin; quinine sulphate; salol; sodium phosphate; thymol; urea; urethane. *Antagonists:* ammonium chloride; atropine; brucine; carbolic acid; caffeine; cocaine; codeine; digitalis; physostigmine; picrotoxin; strychnine; thebaine.

CHLORATES—ammonium picrate; arsenites or bromides (in acid solution); carbolic acid; charcoal; cyanides; ferrous salts (in acid solution); gallic acid; glycerin; honey; hydrochloric acid; hypophosphites; hyposulphites; iodides (in acid solution); iodine; iron (reduced); lycopodium; mercurous salts (in acid solution); oxalic acid; phosphorus (amorphous); sulphides in acid solution; sulphuric acid; salicylic acid; shellac; starch; sugar; sulphides; sulphites.

CHLORIDES—hydrogen peroxide; lead, mercurous, and silver salts; nitric and sulphuric acids.

CHLORINATED LIME—fats; glycerine; iodides; oils.

CHLORINE WATER—alkalies; ammonium salts; arsenous salts; bromides; ferrous salts; hypophosphites; iodides; lead salts; lime water; mercurous salts; oxalic acid; silver salts.

CHLOROFORM—caustic alkalies; aqueous fluids. *Antagonists:* amyl nitrite.

CHROMATES—barium, bismuth, lead, manganese, mercury, silver, and strontium salts.

CINCHONA—acids (mineral); alkalies; carbonates; alkaloidal precipitants; ferric and ferrous salts; lead acetate; lime water; magnesia; mercuric chloride; rhubarb infusion; silver nitrate; tartar emetic; zinc sulphate.

CITRATES—alcohol; lead acetate; potassium permanganate (in acid solution); silver nitrate.

COCAINE—acids (concent.); alkaloidal precipitants; alkalies; caustic alkalies; hot water. Cocaine hydrochloride is incompatible with calomel, chloroform water, mercuric oxide and silver

nitrate. *Antagonists:* alcohol; amyl nitrite; caffeine; chloral hydrate; digitalis; morphine.

CODEINE—alkalies; alkaloidal precipitants; ammonium bromide or chloride; ammonium valerianate; copper, iron, and lead salts. *Antagonist:* chloral hydrate.

COLCHICINE—acids; akalies; alkaloidal precipitants.

COLLODION—carbolic acid; aqueous fluids.

COLOCYNTH—alkalies; ferrous sulphate; lead sulphate; lime water; mercuric chloride; silver nitrate.

CONIINE—albumin; aluminium salts; aklaloidal precipitants; chromic acid; copper, iron, manganese, and zinc salts.

CONIUM—acids (vegetable); alkalies; tannic acid.

COPAIBA—acids (mineral); caustic alkalies; both calcium hydrate and magnesia solidify it; water.

COPPER AMMONIATED—acids; alkalies; lime water.

COPPER SULPHATE—alkalies; ammonium acetate; arsenites; arsenous acid; calcium chloride; carbonates; ferric acetate; glucose (in alk. sol.); iodides; lead acetate; lime water; mercuric chloride; potassium tartrate; phosphates; silver nitrate; sodium borate; vegetable astringent infusions and tinctures.

CORROSIVE SUBLIMATE—See mercuric chloride.

CREOSOTE (BEECHWOOD)—acacia; albumin; cupric, ferric, gold, and silver salts; nitric acid; oxidizers.

CYANIDES—acids; alkaloids; chloral hydrate; iodine, lead, mercurous, and silver salts; permanganates; potassium chlorate; potassium nitrate. *Antagonist:* atropine.

DECOCTIONS—like infusions.

DIGITALIS—acids; alkalies; alkaloidal precipitants; cinchona infusion; ferrous sulphate; lead acetate; tannic acid and other vegetable astringents. *Antagonists:* aconite; chloral hydrate; cocaine; glonoin; muscarine; saponin; scoparin; strychnine.

DIURETIN—acids; bicarbonates; borates; carbolic acid; chloral hydrate; ferric chloride; phosphates; phosphoric acid. Also those of salicylates.

ERGOT—alkaloidal precipitants; tannic acid.

ETHER—bromine; chromic acid.

ETHER ACETIC—alkalies; chlorine water; chromic acid; water.

ETHYL BROMIDE—alkalies; ammonia water.

EUCALYPTOL—potassium permanganate.

EXALGIN—bromal hydrate; butyl-chloral hydrate; carbolic acid; chloral hydrate; euphorin; menthol; naphtol; pyrocatechin; pyrogallol; resorcin; salicylic acid; salol; thymol; urethane.

FORMALDEHYDE—albumin; alkalies; ammonia; bisulphites; gelatin; copper, gold and silver salts; phenylhydrazine; iron and tannin preparations.

GELATIN—alcohol; alumnol; chlorine water; ferric salts; formaldehyde; mercuric chloride; metaphosphoric acid; picric acid; platinum chloride; potassium ferrocyanide; tannic acid; tartar emetic.

Gentian—ferric and ferrous salts; lead acetate.

Glonoin—alkalies; carbonates; hydrochloric acid; hydriodic acid.

Glucosides—acids; alkalies; ferments; lead acetate and subacetate; hot water; tannic acid.

Glycerin—chromic acid; hot acids; lead oxide; potassium permanganate; silver nitrate.

Glycyrrhizn, Ammoniated—acids (mineral); alkalies; metallic salts.

Gold and Sodium Chloride—alkalies; alkaloids; arsenites; hypophosphorus acid; ferrous and mercurous salts; organic substances; oxalic acid; potassium iodide; sulphurous acid; thymol; vegetable infusions.

Guaiac Resin—acids (mineral); acacia; chlorine water; chromic acid; ferric and gold chlorides; metallic salts; potassium permanganate; spirit nitrous ether.

Guaiacol—like creosote.

Homatropine—like belladonna.

Hydrastis—alkaloidal precipitants.

Hydrogen Dioxide—alkalies; albumin; ammonia; arsenous salts; balsam Peru; carbolic acid; charcoal; chlorides; chlorine water; citrates of alkalies; ferric salts; glycerin; gold salts; hydrocyanic acid; hypophosphites; iodides; lime water; manganese dioxide; mercurous salts; nitrates; potassium bromide; potassium permanganate; sulphates; solution of chlorinated soda; tartrates; tinctures generally.

Hyoscyamus—acids; alkaloidal precipitants; ferrous sulphate; lead acetate; silver nitrate; vegetable astringents.

HYPOPHOSPHITES—arsenic salts; bromine and bromates; chlorine and chlorates; chromates; cupric salts; ferric salts; iodine and iodates; nitric acid; permanganates; sulphuric acid; sulphurous acid.

ICHTHYOL—acids; alcohol; alkaloids; carbonates; iron salts.

INFUSIONS—alkaloidal salts; aluminium-hydrate solution; lead acetate and subacetate; mercuric chloride; silver nitrate; tartar emetic.

IODIDES—alkaloids; arsenic salts (in acid sol.); bromine; chlorine; bismuth, cupric, ferric, lead, mercury (ic and ous), and silver salts; hydrogen peroxide (in acid sol.); nitric acid; nitrites (in acid sol.).

IODINE—alkalies; alkaline earths; chloral hydrate; alkaloids; ferrous salts; hypophosphites; hyposulphites; mercurous salts, metlas; oils; turpentine; starch, tannic acid.

IODOFORM—alkalies (with heat); balsam Peru; calomel; mercuric oxide; oils (in the light); silver nitrate; tannic acid.

IPECAC—lead acetate; vegetable astringents.

IRON (FERROUS) SALTS—alkalies; carbonates; chromates; chlorates (in acid sol.); ferricyanides; gold salts; hydrogen dioxide; mercuric salts; phosphates; permanganates; sulphides; tannic acid; silver salts.

IRON (FERRIC) SALTS—acacia; albumin; alkalies; apomorphine; aloin; benzoates; carbonates; creosote; balsam Peru; benzoin (in alcohol sol.); diuretin; gallic acid; gelatin; guaiac; guaiacol;

hydriodic acid; hypophosphites; hyposulphites; iodides; morphine; oils of bay, cloves, cinnamon, pimento, thyme, and wintergreen; pyrogallol; resorcin; salol; sulphides; sulphites; salicylates; tannic acid; vegetable infusions and decoctions.

Iron Chloride (Ferric)—acacia; albumin; alkalies; carbonates; gelatin; lime water; magnesium carbonate; piperazine; vegetable decoctions, infusions and tinctures.

Iron Sulphate (Ferrous)—alkalies; ammonium, barium, and calcium chlorides; carbonates; gold and silver salts; lead acetate; lime water; potassium iodide; piperazine; potassium nitrate; Rochelle salt; sodium borate; tannin; vegetable astringent infusions.

Lead Acetate—acids; alkalies; bromides; carbolic acid; carbonates; chloral hydrate; chlorides; chromates; cyanides; glucosides; gums; hydrochloric acid; iodides; opium; pyrocatechin; pyrogallol; resorcin; salicylic acid; sodium phosphate; sodium salicylate; sulphates; sulphides; sulphites; tannic acid; urea; urethane; vegetable decoctions, infusions, and tinctures.

Lead Subacetate—see sol. lead subacetate.

Lupulin—salts of iron, mercury, platinum and tin.

Magnesia—acids; with copaiba forms solid mass; with little water becomes hydrated.

Magnesium Salts—alkalies; arsenates; carbonates; lead acetate; lime water; oxalates; phosphates; silver nitrate; sulphites; tartrates.

Manganese Salts—alkalies; carbonates; bromine; chlorine and iodine (in alk. sol.); cyanides; phosphates.

MENTHOL—bromal hydrate; butyl-chloral hydrate; camphor; carbolic acid; chloral hydrate; chromic acid; exalgin; naphthol; potassium permanganate; pyrocatechin; pyrogallol; resorcin; thymol; urethane.

MERCURIC CHLORIDE (CORROSIVE SUBLIMATE)—albumin; alkalies; alkaloids; ammonia; antimonous and arsenous salts; bromides; borax; carbonates; copper salts; ferrous salts; formic acid; glucosides; honey; hypophosphites or hypophosphorous acid; iodides; infusions of cinchona, columbo, oak bark, and senna; lead salts; lime water; milk; phosphates; piperazine; silver nitrate; soap; sulphates of potassium or sodium; sulphides; syrup sarsaparilla compound; tannic acid; tartar emetic; vegetable astringents; zinc salts.

MERCUROUS CHLORIDE (CALOMEL)—acacia; acids (mineral); alkalies; ammonia; antimony sulphide, golden; arsenites (in alk. mixtures); bromides; carbonates; chlorides; citric acid; cocaine; cyanides; copper salts; hydrocyanic acid; hydrogen peroxide; hypophosphorous acid; iodides; iodine; iodoform; lead salts; lime water; mercuric oxides; polocarpine; sodium bicarbonate; sugar (cane and milk); silver salts; soaps; sulphides; tragacanth.

MERCURY AMMONIATED (WHITE PRECIPITATE)—acids; alkalies; bromine; chlorine; iodine; lime water.

MERCURY IODIDE, RED—like mercuric chloride.

MERCURY IODIDE, YELLOW—like mercurous chloride.

MERCURY OXIDE—mineral acids; chloral hydrate; mercuric chloride.

MERCURY SUBSULPHATE (TURPETH MINERAL)—acids; caustic alkalies.

METHYLENE BLUE—caustic potassa; potassium bichromate; potassium iodide; reducing agents; sulphuric acid.

MORPHINE—alkaloidal precipitants; borax; chlorates; ferric chloride; iodates; iodides; iodine; lead acetate and subacetate; magnesia; spirit nitrous ether; silver nitrate. See also alkaloids. *Antagonists:* atropine; caffeine; chloroform; cocaine; daturine; gelsemium; hyoscyamine; nicotine; paraldehyde; physostigmine; picrotoxin; veratrum viride.

MUSK—acids (mineral); cinchona infusion; ferrous sulphate; mercuric chloride; silver nitrate.

NAPHTALIN—carbolic acid; chromic acid; pyrocatechin; salol.

NAPHTOL BETA—antipyrin; camphor; carbolic acid; chlorinated lime; exalgin; ferric chloride; menthol; potassium; permanganate pyrocatechin; urethane.

NITRITES—Acetanilid; antipyrin; chlorates; chromates; gold chloride; hypophosphites; iodates; iodides; mercury salts (ic and ous); permanganates; sulphites; tannic acid; vegetable astringent decoctions; infusions or tinctures.

NITROGLYCERIN—see glonoin.

NUX VOMICA—see strychnine.

OIL TURPENTINE—bromine; chlorine; iodine; water.

Oil Wintergreen—like acid salicylic.

Opium—alkalies; alkaloidal precipitants; carbonates; catechu; cinchona; copper salts; galls; iron salts; kino; lead acetate and subacetate; lime water; mercuric chloride; silver nitrate; zinc sulphate. *Antagonists:* see morphine.

Oxalates—see oxalic acid.

Pancreatin—acids; alcohol; sodium chloride (in excess).

Paraldehyde—alkalies; hydrocyanic acid; iodides; oxidizers.

Pepsin—alcohol; aklalies; tannic acid; vegetable decoctions and infusions.

Phenacetin—acids (strong); alkalies (strong); carbolic acid; chloral hydrate; iodine; oxidizers; piperazine; pyrocatechin; salicylic acid.

Phenocoll Hydrochloride—acids (nitric or nitro-hydrochloric); alum; benzoates; chloral hydrate; cinchona, compound tincture or decoction; mercuric chloride; piperazine; potassium acetate, bicarbonate, bromide, citrate or sulphate.

Phosphates—see acid phosphoric.

Phosphorus—all oxidizers.

Physostigmine—see alkaloids. *Antagonists:* atropine; caffeine; chloral hydrate; morphine; strychnine.

Picrotoxin—acids. *Antagonists:* chloral hydrate; morphine.

Pilocarpine Hydrochloride—alkaloidal precipitants; calomel; potassium permanganate. *Antagonists:* atropine.

Piperazine—acetanilid; alkaloidal salts; alum; butyl-chloral hydrate; carbolic acid; chloral hydrate; copper sulphate; ferric chloride; ferrous sulphate; mercuric chloride; phenacetin; phenocoll hydrochloride; picric acid; potassium permanganate; quinine; silver nitrate; solution arsenic and mercury iodide; sodium salicylate; spirit nitrous ether; tannic acid.

Potassa, Sulphurated—acids; acid salts.

Potassium and Sodium Tartrate—acids; ammonium chloride; barium salts; calcium salts; lead salts; magnesium sulphate; silver nitrate; sodium sulphate.

Potassium Permanganate—acids (mineral); alcohol; ammonia; arsenites; bromides, carbolic acid; chlorides; charcoal; fats; ferrous salts; glycerine; gums; hydrogen dioxide; hypophosphites; hyposulphites; mercurous salts; oils; organic substances; oxalic acid; oxalates; picric acid; piperazine; sulphites; tannic acid; tartaric acid.

Pyoktanin—alkalies; mercuric chloride.

Pyrocatechin—acetanilid; alkalies; antipyrin; ammonium carbonate; bromal hydrate; butyl-chloral hydrate; camphor; camphor mono-bromated; carbolic acid; chloral hydrate; diuretin; euphorin; exalgin; ferric chloride; lead acetate; menthol; naphtalin; naphtol; nitric acid; phenacetin; pyrogallol; resorcin; salol; sodium phosphate; thymol; urea; urethane.

Pyrogallol—alkalies; ammonia; antipyrine; camphor; carbolic acid; diuretin; exalgin; fer-

ric acetate or chloride; ferrous sulphate; gold salts; iodine; lead acetate; lime water; menthol; mercury salts; potassium permanganate; pyrocatechin; sodium phosphate; urea; urethane.

QUININE AND SALTS—like alkaloids.

RESIN—carbolic acid; caustic alkalies; menthol; salol; thymol; urethane.

RESORCIN—acetanilid; albumin; alkalies; antipyrin; camphor; exalgin; ferric chloride; menthol; potassium iodide (in alk. sol.); spirit nitrous ether; urethane.

RHUBARB—acids (mineral); ferrous sulphate; infusion of catechu; cinchona or galls; lead acetate; lime water; mercuric chloride; silver nitrate; tartar emetic; zinc sulphate.

SALICYLATES—see acid, salicylic.

SALOL—alkalies (with heat); bromine water; camphor; camphor monobromated; carbolic acid; chloral hydrate; exalgin; ferric chloride; naphtalin; pyrocatechin; resin; thymol; urethane.

SARSAPARILLA—galls infusion; lead acetate; lime water; mercuric chloride (with comp. syr. of).

SENNA—acids (mineral); carbonates; cinchona infusion; lead acetate; lime water; mercuric chloride; silver nitrate; tartar emetic.

SILVER NITRATE—acetates; alcohol; alkalies; antimony salts; arsenites; bromides; carbonates; chlorides; chromates; creosote; cyanides; copper salts; ferrous sulphate; glucose; hypophosphites; iodides; morphine salts; oils; manganous salts; organic substances; phosphates; sulphides; sul-

phates; tartrates; vegetable astringent infusions and decoctions.

Silver Oxide—antimony and arsenic sulphides; bismuth; copper, iron and mercury salts; creosote; iodine; organic substances; phosphorus; tannic acid.

Sodium Hyposulphite (Thiosulphate)—acids; barium, lead, mercurous ,and silver salts; arsenic and ferric salts, and chromates and permanganates (all in acid solution); chlorates; iodine; nitrates; oxidizers.

Sodium Phosphate—alkaloids; antipyrine; carbolic acid; chloral hydrate; lead acetate; pyrocatechin; pyrogallol; resorcin; salicylic acid; sodium salicylate. See also acid, phosphoric.

Solution Arsenic and Mercury Iodide (Donovan's Solution)—alkaloids; caustic alkalies; piperazine. See also acid arsenous and iodides.

Solution Lead Subacetate—acacia; acids (organic); albumin; alkaloids; antipyrine; glucosides. Otherwise like lead acetate.

Solution Sodium Silicate—acacia; acids; alcohol.

Spirit Ammonia, Aromatic—acids; acid salts; lime water; aqueous fluids.

Spirit Camphor—acacia; aqueous fluids; gelatin.

Spirit Lemon—acacia, aqueous fluids; gelatin.

Spirits Nitrous Ether—acacia; acetanilid; alkalies; antipyrin; carbonates; ferrous sulphate; gelatin; guaiac tincture; iodides; morphine; tannic acid; piperazine; preparations of uva ursi; thymol. See also nitrites.

SPIRIT PEPPERMINT—acacia; aqeuous fluids; gelatin.

STARCH (IN SOLUTION)—acids; alcohol; alkalies; diastase; iodine; lead subacetate; lime water; tannic acid.

STRAMONIUM—acids (mineral) salts of iron, lead, mercury and silver. Otherwise like belladonna.

STRONTIUM SALTS—alkalies; carbonates; chromates; oxalates; phosphates; sulphates.

STRYCHNINE—all alkaloidal precipitants. *Antagonists:* aconite; alcohol; amyl nitrite; atropine; chloral hydrate; chloroform; curarine; digitalis; hydrocyanic acid; morphine; nicotine; paraldehyde; physostigmine; potassium bromide; urethane.

SULPHATES—see acid sulphuric.

SULPHUR—potassium chlorate; potassium permanganate.

TARAXACUM—galls infusion, iron, lead, mercury and silver salts.

TARTAR EMETIC—see antimony and potassium tartrate.

TEREBENE—chlorine; bromine; iodine; water.

THEOBROMINE SALTS—gold, mercury, and silver salts; water. See also diuretin.

THYMOL—Acetanilid; antipyrin; butyl-chloral hydrate; camphor; camphor monobromated; carbolic acid; chloral hydrate; exalgin; gold salts; menthol; pyrocatechin; quinine sulphate; resin; salol; spirit nitrous ether; urethane.

Tragacanth—alcohol; copper sulphate; ferrous sulphate; lead acetate (basic and neutral).

Urea—bromal hydrate; chloral hydrate; lead acetate; pyrocatechin; pyrogallol.

Urethane—aldehydes; alkalies; antipyrin; benzoic acid; bromal hydrate; butyl-chloral hydrate; camphor; carbonates; carbolic acid; exalgin; menthol; naphtol; pyrocatechin; pyrogallol; resin; resorcin; salicylic acid; salol; thymol.

Uva Ursi—alkalies; gelatin; cinchona infusion; iron and lead salts; opium; silver nitrate; spirit nitrous ether; tartar emetic.

Valerian—cinchona infusion; iron and silver salts.

Vegetable Preparations—iron and lead salts.

Water—alcoholic extracts and tinctures; alkaloids generally; collodion; fats; oils; gum resins; resins; resinous extracts and tinctures.

Zinc Salts—acacia; alkalies; arsenates; carbonates; cyanides; lime water; milk; oxalates; phosphates; sulphates; sulphides; vegetable astringent decoctions and infusions.

EXAMPLES OF INCOMPATIBILITY IN PRESCRIPTIONS*

℞

Sodii Boratis,	gr x
Zinci Sulphatis,	gr $\frac{\cdot\cdot\cdot}{\text{II}}$
Aquae Camphorae,	f℥ $\frac{\cdot}{\text{J}}$
Aquae Rosae, qs. ad.,	f℥ $\frac{\cdot}{\text{J}}$

M. Sig. Put one drop in each eye night and morning.

The zinc is entirely precipitated by the borax, producing a white flocculent precipitate of zinc borate or hydrate. If dispensed, the precipitate should be filtered out.

℞

Iodine,	gr. xxx
Spirit of Camphor,	f℥ $\frac{\cdot}{\text{J}}$
Soap Liniment,	f℥ $\frac{\cdot\cdot\cdot}{\text{IIJ}}$

Mix and label. Apply as directed.

This makes a clear brownish-red solution, which on standing two or three days loses much of its color, becoming light brown. On applying the starch test for free iodine no blue color was obtained. According to Muir and Morley, iodine with camphor forms a hydrocarbon and other substances.

℞

Liquor Ferri Chloridi,	f℥ $\frac{\cdot\cdot}{\text{IJ}}$
Potassii Chloratis,	gr xxx
Glycerini,	f℥ $\frac{\cdot}{\text{J}}$

M. Sig. Teaspoonful twice a day.

*From Ruddiman's "Incompatibilities in Prescriptions." John Wiley & Sons, Publishers.

There is considerable danger of having an explosion in attempting to fill this. If the potassium chlorate is rubbed with the glycerin, explosion is liable to take place or if the chlorate be added to the solution of ferric chloride, which always contains some free hydrochloric acid, chlorine will be formed, and this will act upon the glycerin, converting it into oxalic and carbonic acids. In filling this the temperature should not go above 70°F., and then the bottle should be loosely stoppered for a time before giving out.

℞

Iodoform,

Tannic acid, āā $\overline{3}\,\overline{\text{IJ}}$

Mix and label. Dust over abraided surface.

No change is noticed in the appearance of this mixture on standing. The odor of the iodoform slowly diminishes, and, according to the U. S. Dispensatory (17th Ed.), this is due to the decomposition of the iodoform by the tannic acid.

℞

Sodii Salicylatis, $\overline{3}\,\overline{\text{IJ ss}}$

Syrupi Limonis, $\text{f}\overline{3}\,\overline{\text{IJ}}$

M. Sig. Teaspoonful three times a day.

On standing, the citric acid in the syrup combines with the sodium, liberating salicylic acid, which, being only sparingly soluble in water is precipitated in needle-shaped crystals. This can be dispensed as a shake mixture. The precipi-

tation is rather tardy and it would be well to give notice of the change which will take place.

℞

Liquoris Potass. Arsenitis,	f℥ ȷ
Hydrargyri Chloridi Cor.,	gr ȷ
Aquae,	f℥ ıv

Misce et fiat sol. Sig. Dessertspoonful three times a day.

Fowler's solution is alkaline, due to the excess of potassium bicarbonate used in making the solution. Boiling with water converts the bicarbonate into the normal carbonate of potassium to some extent. Either the bicarbonate or the normal carbonate precipitates mercuric chloride in solution as the red-brown mercuric oxychloride. If the solution of arsenous acid be used, instead of Fowler's solution it will not give a precipitate with corrosive sublimate.

℞

Quininae Sulph.,	gr x
Potassi Acetatis,	gr xx
Acidi Sulphurici Dil.,	gtt iv
Aquae, q. s. ad,	f℥ ȷ

M. S. Teaspoonful after meals.

On dissolving the quinine sulphate in part of the cinnamon water with the aid of the sulphuric

acid, then adding the potassium acetate previously dissolved in the remainder of the water, a voluminous precipitate of quinine acetate is obtained. Quinine acetate is only sparingly soluble in water, and the amount here formed is so large and bulky that it is difficult to pour out an even dose.

℞

Acid Carbolici, ℥iss

Aquae, q. s ad. ℥ j

M. S. Use with camel-hair brush.

Water can be added to carbolic acid, until the proportion is about 3 parts of acid to 1 part of water, forming a clear solution. (Allen). On adding more water the acid separates as an oily liquid, going to the bottom. When water has been added so that the proportion is about 1 part of acid to 15 parts of water, a clear solution again results. In this prescription there will be a layer of liquefied acid in the bottom of the bottle. If the brush should remain in the bottle between the periods of using it there is danger that it will become saturated with the strong acid and that it will be applied in this condition. By the use of some glycerin in place of part of the water a clear solution can be made and this is what should be done.

℞

Syrupi Acidi Hydriodici, f℥ ij

Bismuthi Subnit, ℥ iss

M. S. Teaspoonful three times a day.

The bismuth subnitrate is insoluble in the syrup, but a chemical reaction takes place between it and the hydriodic acid, as is evidenced by the change in color. Bismuth subnitrate is white; on mixing it with the syrup the color becomes yellow, and within a few minutes it turns to a dark brown and then grayish black. On allowing the precipitate to settle it appears to be a mixture of two compounds, one yellow and the other dark gray. According to Watts' Dictionary, the oxyiodide of bismuth is copper-colored and the bismuth iodide is a brilliant gray.

℞

Alcohol,	30 cc.
Iodine,	10 gm.
Turpentine,	200 cc.

Mix. To be used as a spray.

If the turpentine is poured upon the iodine violent chemical reaction results, with the formation of violet fumes of vaporized iodine, caused by the heat generated. While there is not enough of alcohol to dissolve all of the iodine, it is best to dissolve as much as possible before adding the turpentine, which should be added in small portions, cooling the mixture if necessary. Upon standing the liquid separates into two layers. The lower one being much smaller in amount and very dark colored, is probably the alcohol holding most of the iodine in solution; the upper stratum is very much lighter in color and is probably the turpen-

tine. Turpentine and alcohol are not miscible in all proportions.

℞

Bismuth Subnit., ℥ i

Sodii Bicarbonatis, grxxx

M. Fiant pil., No. XX.

In mixing these two substances chemical reaction takes place, with the liberation of carbon dioxide, which causes the mass to swell to several times its original size. This reaction goes on slowly requiring several hours for its completion, and the mass should not be made into pills until the reaction has been completed. If the subcarbonate had been substituted for the subnitrate incompatibility would have been avoided and the same physiologic effects obtained.

℞

Potassii Bromidi, grxv

Hydrargyri Chlor. Mitis. grxv

Misce et fiat pulvis: Mitte tales No. XII.

If the ingredients are powdered separately and are perfectly dry when mixed no chemical reaction takes place. But upon addition of water or in the presence of moisture the powder becomes dark gray in color. The darkening is due to the formation of metallic mercury. At the same time some of the calomel is converted into a mercuric

salt, rendering the prescription dangerous. It should not be dispensed.

℞

Morphinae Sulph., gr II

Sp. Aetheris Nitrosi,

Aquae, a a f℥ ss

Misce. Signa: Capiat cochleare unum parvum quoties requiritur.

The nitrous ether acts upon the morphine giving a yellowish green solution. Morphine is undoubtedly oxidized by the nitrous acid, but the products have not been determined.

℞

Liq. Plumbi Subacet. Dil.,
Tinctural Opii, a a f℥ ss

Aquae, f℥ j

M. S. Lotion.

This is a very common combination. Lead subacetate forms compounds with nearly all alkaloids, and these are insoluble in water. The opium alkaloids are no exceptions. The alcohol of the tincture undoubtedly tends to prevent the precipitation to some extent, though there is still quite a heavy one. The mixture should not be filtered.

℞

Cocainae Hydrochlor., grv

Sodae Boratis, gr ij

Aquae Dest., ℥ j

M. S. Drop one drop in right eye at night.

Borax is alkaline in reaction and precipitates nearly all alkaloids from solutions of their salts. It precipitates the cocaine in this prescription, but the difficulty can be prevented by the use of a little glycerin. The glycerin acts chemically on the borax, breaking it up and forming sodium metaborate and boric acid. If boric acid were used instead of borax no precipitation would occur.

℞

Sp. Ammoniae Arom., f℥ ii

Liquoris Calcis, f℥ iiss

M. S. Dessertspoonful as needed.

On mixing these two ingredients together a white precipitate of calcium carbonate is formed, the spirit containing ammonium carbonate. The lime water also throws out of solution the oils of the aromatic spirit. Whether the precipitate should be filtered out or not must depend upon the conditions for which the medicine is prescribed.

POISONS AND THEIR ANTIDOTES*

In treating cases of poisoning, four indications must be kept in mind: (A) How to most quickly get the bulk of the posion out of the stomach by forcibly emptying it; (B) how to antidote the residual poison after evacuating the stomach; (C) how to eliminate from the system the poison that has entered the blood or gone on into the intestines; (D) how to treat the dangerous symptoms as they arise from the effects of the poison.

ACETANILID, ANTIFEBRIN, ANTIPYRIN.—Place patient in a recumbent position, allow plenty of fresh air; give stimulants (brandy, whisky, aromatic spirits of ammonia, etc.) Apply heat externally; use atropine or belladonna to maintain blood pressure; strychnine to aid respiration; oxygen inhalations if there is excessive cyanosis.

ACID ACETIC.—Administer magnesia freely; soap and water; lime water; chalk; milk, oils and thick gruels may be given.

ACID CARBOLIC.—Unless great destruction of mucous membrane has occurred, produce vomiting by means of warm water containing some sodium bicarbonate or zinc sulphate; mustard; apomorphine. Demulcent drinks, flaxseed or elm tea, and white of egg beaten up with water, protect mucous surfaces. Do not give oils or glycerin. As stimulants use whiskey, alcohol, ammonia, etc., hypodermically if need be; warmth; friction.

*From Merck's Report Ready Reference. (Adapted to veterinary practice. When vomiting is mentioned it is understood to refer to the smaller animals as the pig, dog and cat; not to the herbivora).

Opium relieves pain. Excite counter irritation over the abdomen. Give digitalis and strychnine if needed. Recently whiskey and brandy have been warmly recommended, followed in a few minutes by a hypodermic injection of apomorphine to produce vomiting. A Dublin veterinarian, Allen, has lately recommended turpentine for carbolic acid poisoning.

Acid, Carbonic and Coal Gas.—Bring the patient at once into the open air. If the respiratory movements have ceased, cold water should be dashed on the face and chest, to awaken them to reflex action. If no effect is thereby produced resort to artificial respiration which should be continued for at least an hour. A series of quick sharp blows over the cardiac region will sometimes start the heart into action after it has stopped. Inhalation of oxygen or ammonia vapor, or an enema of black coffee, and venesection, may be of service.

Acid, Chromic, Potassium Chromate and Bichromate.—Evacuate the stomach with ½ oz. of mustard stirred to a cream with 1 ounce of water; (man or dog), or with zinc sulphate, apomorphine; ipecac or pump. Follow with magnesium oxide or carbonate, sodium bicarbonate, or chalk, in water; as demulcent drinks give barley, elm, or flaxseed water.

Acid, Hydrocyanic, Cyanides, Cherry-Laurel Water, Oil Bitter Almond.—Fifteen minims of official acid, or 1 grain of anhydrous acid, usually kills (man or dog) in 10 to 15 minutes. Place in recumbent position, allow plenty of fresh air; empty the stomach by mustard, zinc sulphate,

or pump; keep the body warm. If breathing ceases, use artificial respiration, mild faradic current to the heart, alternate cold and warm affusion to head, chest and spine; administer ammonia by inhalation or give it by mouth or veins; inject atropine solution 2 to 4 drops every half hour, to assist the heart's action. Ferrous sulphate with ferric sulphate, followed by potassium carbonate, yields inert Prussian blue. Ferrous sulphate alone or with calcined magnesia renders the acid insoluble, but the action of the acid is so quick that there is scarcely time for the applications of many remedies. Brandy by the mouth, skin, or rectum has been found valuable.

Acid, Oxalic and Oxalates.—Half to one ounce usually proves fatal (man or dog). If not already vomited by the poison, empty the stomach at once with mustard, zinc sulphate, pump or tube, then neutralize with chalk, whiting, or wall plaster in water, or lime water itself, never with sodium, potassium or ammonia salts, as these form soluble oxalates; apply hot fomentations to the loins. Give an enema to empty the bowels. Give much water to facilitate elimination by the kidneys.

Acids, Mineral: Hydrochloric, Nitric, Nitrohydrochloric, Sulphuric, Phosphoric.—One to four drams of the stronger acids usually proves fatal (man and dog). Neutralize with sodium bicarbonate, calcined magnesia, lime, chalk, or wall plaster mixed with water; if none of these are accessible, dilute and wash out the stomach with considerable water. One may use with

advantage any of the following—soap, milk, gruel, olive and almond oil, eggs beaten up. Avoid the stomach pump as it might perforate the softened œsophagus.

Aconite and Aconitine.—Thirty to sixty drops of tincture or one-twentieth grain of alkaloid generally prove fatal (man or dog). Evacuate the stomach at once with zinc sulphate, apomorphine, mustard, or pump; place in a recumbent position, the head the lowest; apply warmth to the extremities; give solution, four drops hypodermically, or, give tincture of belladonna twenty drops by the mouth, repeated. If heart syncope presents, give tincture of digitalis fifteen drops hypodermically or thirty drops by the mouth. As stimulants, use ammonia, brandy, strychnine, mustard plasters to the chest. Aid vomiting and elimination of the poison by abundant water, to which may be added brandy or alcohol in any form. Inhale amyl nitrate, or oxygen, and if breathing stops use artificial respiration. Animal charcoal and tannin are of service.

(The doses of the antidotes mentioned above are for man and dog; for larger animals the dosage should be in proportion to size.)

Alcohol.—Inebriation somewhat resembles opium poisoning and concussion of the brain. Empty the stomach, wash out well with warm coffee, keep the body very warm, but apply cold douche to the head; allow plenty of fresh air; apply interrupted current to the respiratory muscles; ammonia water or amyl nitrite to the nostrils; keep the patient awake mechanically by shaking, shouting, etc.

Alkalies, Potassa, Soda and Ammonia.—They usually cause vomiting, but if they do not, accomplish this by plenty of luke-warm water, to be followed by vinegar (dilute acetic acid, lemon or orange juice, tartaric or citric acid solution, 2 drams to a pint of water); olive oil (1 to 4 drams for man and dog); egg white, milk, demulcent drinks (arrowroot, elm, barley, or flaxseed water) to protect the mucous membranes and sustain vital powers. May always give plenty of water and relieve pain with laudanum or hypodermics of morphine.

Alkaloids in General.—Tannin generally forms comparatively insoluble tannates; albumin; iodine and charcoal also of service; use emetics and cathartics *later*.

Ammonia.—Administer vinegar, lemon juice, orange juice, or any vegetable acid, followed by demulcents to protect the mucous surfaces. When inhaled, give vapor of acetic or hydrochloric acid or chlorine water by inhalation.

Amyl Nitrite.—Atropine, ergotin, or strychnine hypodermically are the best antidotes; stimulants, alternate hot and cold douches, with cold to the head, and artificial respiration are also useful measures.

Antimony Compounds, Tartar Emetic.—In man, 2 to 5 grains have occasioned death, while several drams have failed to produce more than great vomiting and alarming general symptoms. Should these fail to cause the patient to vomit one must create this by mustard, zinc sulphate, apomorphine or pump; follow with strong tea

or coffee, solution of tannic or gallic acid, to form an insoluble compound. Give demulcent drinks (flaxseed, slippery elm, egg white, milk); opium and stimulants in small but frequent doses. If the body be cold, apply blankets; faradic current over the heart if necessary. Instead of tannin, freshly precipitated ferric hydroxide can be used, following with opium or morphine for the pain.

ANTIPYRIN.—See Acetanilid.

APOCYNIN.—Like Digitalis.

ARSENIC COMPOUNDS.—Unless the poison itself vomits, accomplish this with mustard, zinc sulphate, apomorphine, pump, or tube. Either wash out the stomach with a large quantity of water or give freshly precipitated hydrated oxide of iron, made by double decomposition between any ferric solution and a solution of either diluted ammonia water, sodium carbonate, or magnesium oxide, the object being to form insoluble ferric arsenite or arsenate. The ammonia acts as a stimulant, the calcined magnesia as an aperient. One may give with advantage, oil, mucilaginous drinks, egg white, and in cases of faintness, stimulants. If the skin be cold, apply hot blankets, and relieve the pain by opium or morphine; one may conclude with a dose of castor oil.

ATROPINE.—See Belladonna.

BARIUM COMPOUNDS.—See Lead compounds.

BELLADONNA OR ATROPINE, HYOSCYAMUS OR HYOSCYAMINE, STRAMONIUM OR DATURINE, DULCAMARA OR SOLANINE, DUBOISIA OR DUBOISINE.—Empty the stomach by mustard, zinc sulphate

apomorphine, pump or tube; give strong infusion of coffee, or tea by the mouth or rectum; also pilocarpine nitrate; or instead, use morphine, opium, or physostigmine to antagonize the nervous disturbances of the poison. Apply hot water to the feet; alternate douches of hot and cold water are useful. Give stimulants (whiskey or brandy), ammonia to the nostrils; also practise artificial respiration.

Benzene.—Evacuate the stomach (mustard, zinc sulphate, apomorphine, ipecac, pump). Give abundant fresh air; hypodermic of atropine, or tincture of belladonna. Apply alternately hot and cold water douches to the chest; practise artificial respiration, and apply a mild interrupted current over the heart.

Blue Stone.—See copper, under mercury compounds.

Bromides.—Give strong coffee, caffeine citrate, digitalis; morphine is antagonistic to mental symptoms; ergot and belladonna are sometimes used.

Bromine.—Give albumin, starch, gelatin, sodium or potassium carbonate or bicarbonate. Against the irritant vapor, inhalations of steam and ammonia vapor may be employed.

Brucine.—See strychnine.

Calabar Bean.—See Physostigma.

Camphor.—Empty the stomach (by mustard, zinc sulphate, pump, etc.); give alcohol or brandy in small and frequent doses (best hypodermically) ether inhalations; alternate hot and cold douches; warmth to the extremities by hot blankets, etc.

Cannabis Indica.—Treat as in opium, but also in the first stages use lemon juice.

Cantharides or Cantharidin.—In man or dog a half dram of powder or one ounce of the tincture usually proves fatal. Empty the stomach (mustard, zinc sulphate, apomorphine, ipecac, pump); allay pain with morphine hypodermically or tincture of opium (through the mouth or rectum). Give plenty of demulcent drinks (barley, elm, flaxseed tea, gruel or pure water) but no oils or oily emulsion, in which cantharidin is very soluble; opium stimulants, warm baths, cataplasms to the abdomen.

Carbon Disulphide.—Quiet the nervous excitement with potassium bromide and chloral; support the circulation with stimulants; may vomit with mustard at first; ammonia to nostrils, warmth to the body, cold douche to the head; artificial respiration.

Castor Beans.—In man three seeds in one case, and twenty in another, have caused death in two and five days respectively. As soon as they have been swallowed give an emetic (mustard, etc.); later give demulcent drinks, opium to quiet violent symptoms which resemble those of cholera.

Cat Bites.—See Dog Bites.

Cherry-Laurel Water.—See Acid Hydrocyanic.

Chloral.—One-half to one dram may prove fatal (small animals); empty the stomach (mustard, zinc sulphate, apomorphine, ipecac, pump). When the stomach is empty introduce coffee by tube

(mouth or rectum); keep limbs warm (friction, mustard plasters, water bags). Administer hypodermically, fresh 2% solution of strychnine nitrate every fifteen minutes. Picrotoxin may be substituted for strychnine. Arouse the patient and keep him awake by coffee, caffeine, flagellation, shaking, shouting; apply ammonia to the nostrils, cold to the head; amyl nitrite inhalation to stimulate the heart; practise artificial respiration if necessary.

Chlorates (and Nitrates—potassium, sodium, etc.)—Empty the stomach (mustard, zinc sulphate, apomorphine). Give plenty of water and mucilaginous drinks to dilute the poison, opium to relieve the pain; amyl nitrite inhalations; avoid stimulants that would increase kidney congestion, keep warm by hot fomentations to the loins.

Chloroform or Ether, Nitrous Oxide Gas.—Withdraw the inhalation at once, lower well the head; pull the tongue forward so as to admit plenty of fresh air. Use artificial respiration and heat; weak current—one pole at the larynx, the other on the pit of the stomach (not far from the diaphragm). Apply hot and cold douche; inhale amyl nitrite. If the heart has stopped, give several taps over that region, inhale ammonia, give brandy, atropine, strychnine. If swallowed evacuate the stomach (mustard, zinc sulphate. apomorphine, pump); enema of hot coffee, large draughts of water, containing sodium carbonate or bicarbonate, and proceed as if inhaled.

Chlorinated Lime.—Administer albumin, mucilaginous drinks, oils, milk, or flour and water;

avoid acids. Opium and alcohol are used for the vital depression.

Chlorine.—Against chlorine preparations in the stomach employ albumin or ammonia water in small quantity and well diluted; emesis with warm water, then white of egg, or milk, flour, or lime water. Ammonia vapor is used against inhaled chlorine.

Coal Gas.—Carbon monoxide is the poisonous agent. See also Acid, Carbonic.

Cobalt.—See Arsenic.

Cocaine.—Resembles closely atropine in its general action as to pulse, pupils, respiration, sweat glands and bowels. Give one of the usual emetics, then tannin. Morphine is probably the best all round antagonist; then in sequence, chloral, chloroform, and ether. Give amyl nitrite to counteract heart depression; alcohol and opium to stimulate the heart; should these fail, use artificial respiration. One may employ ammonia inhalations and caffeine.

Cocculus Indicus.—See Strychnine.

Codeine.—See Opium.

Colchicum (wine or tincture; Colocynth, Elaterium).—If vomiting and purging have not occurred, accomplish the former by one of the usual emetics (mustard, zinc sulphate, ipecac, apomorphine, or pump); follow with tannic or gallic acid, or strong tea or coffee; plenty of water and demulcent drinks; opium or morphine to allay the pain in the stomach, purging, and to antagonize heart depression, stimulants (alcohol,

whiskey, etc.). Keep the extremities warm and apply hot fomentations to the abdomen.

Colocynth.—See Colchicum.

Conium (or Coniine).—Empty the stomach (mustard, zinc sulphate, apomorphine, pump); apply external warmth (hot wraps, bags or bottles), give strong tea, coffee, tannic, or gallic acid or any solution containing tannin; stimulants, artificial respiration; strychnine, picrotoxin, active exercise; castor oil.

Convallaria.—See Digitalis.

Copper Compounds.—See Mercury Compounds.

Corrosive Sublimate.—See Mercury Compounds.

Creosote.—Practically the same as with Carbolic Acid.

Croton Oil.—Empty the stomach (mustard, zinc sulphate, apomorphine, pump); give tincture of opium or morphine hypodermically, until pain and purging are abated. Give demulcent drinks (elm, flaxseed water, mucilage, milk, olive oil, albumin, soup); spirit of camphor in milk, stimulants (brandy, alcohol, whiskey, ammonia), warm baths are also used.

Curarine (or Curare).—If introduced in a wound and all is not removed apply ligature, suck the injured part, washing it out with slightly alkaline solution of potassium permanganate; apply warmth to the loins, plenty of water internally, artificial respiration; spirit of nitrous ether rapidly eliminates the poison through the urine. The great difficulty is in sustaining life by artificial respiration until elimination begins.

Cyanides.—See Acid Hydrocyanic.

Oil Bitter Almond.—See Acid Hydrocyanic.

Cytisine (or Laburnum Seeds).—Induce vomiting and wash out the stomach with strong tea or coffee; follow with enema or quick purgative; stimulant; rouse the patient by hot and cold douche.

Daturine.—See Belladonna.

Digitalis (or Digitalin); Scillain [Scillitin], (Strophanthus, Strophanthin, Convallaria, Scoparius).—Evacuate the stomach (mustard, zinc sulphate, apomorphine, pump). Follow with strong tea or coffee or tannic or gallic acid in water. Hypodermic solution of aconitine nitrate may be given, or tincture of aconite by mouth; if this has given good results repeat in thirty minutes, keep the patient quiet and do not allow an erect position, as that may cause fainting to death. Give stimulants frequently by the mouth, or if vomiting occurs, by the rectum. When the drug has been in continuous use, opium is the best antidote. Saponin and Senegin are the best physiologic antagonists.

Dog Bites (and Cat Bites).—Suck out the wound well with the mouth, wash with a weak alkaline solution (ammonia, caustic potash, etc.), then cauterize with lunar caustic.

Duboisia (and Duboisine).—See Belladonna.

Dulcamara (and Solanin).—See Belladonna.

Elaterium.—See Colchicum.

Ergot.—Evacuate the stomach (mustard, zinc sulphate, apomorphine, pump). Give purgative (Croton Oil) and assist the action by plenty of

warm drinks. Tannic or gallic acid may be useful; after vomiting and purging, administer small doses of opium at intervals. Nitroglycerin every 15 minutes has been effective. Allow a recumbent position. Apply warmth and friction to maintain the circulation; stimulants; amyl nitrite.

Eserine.—See Physostigma.

Ether.—See Chloroform.

Fish Poison.—Administer emetics and cathartics; potassium chlorate; solution ammonium acetate; opium; capsicum or chloroform.

Fowler's Solution.—See Arsenic.

Fungi.—See Mushrooms.

Gelsemium (and Gelsemine).—Empty the stomach (mustard or pump); give atropine hypodermically or tincture of belladonna by mouth; apply external heat by rubbing; stimulants (digitalis, ammonia, coffee, alcohol, artificial respiration, electricity); rouse the patient by hot and cold douches.

Glonoin.—Like Amyl Nitrite.

Gold Salts.—Like Mercury compounds.

Hyoscine.—Similar to Belladonna, but chloral is used here with great advantage.

Hyoscyamus (and Hyoscyamine).—See Belladonna.

Ignatia.—See Strychnine.

Iodine.—Empty the stomach (mustard, zinc sulphate, apomorphine, pump); follow with starch diffused in hot water or as a paste, or flour in warm water; farinaceous substances (arrow-root, boiled rice, thin gruel); demulcent drinks; may inhale

amyl nitrite and relieve the pain by opium and morphine.

Laburnum Seeds.—See Cytisine.

Lactucarium.—See Opium.

Laudanum.—See Opium.

Lead Compounds (Lead Chromate and Acetate; Barium Compounds).—If acute, empty the stomach (mustard, zinc sulphate, apomorphine, pump); follow with sulphate of magnesium or sodium, or dilute sulphuric acid; milk, demulcent drinks. For the pain give opium or morphine; for lead colic, apply hot fomentations. If it be chronic lead poisoning, recognized by a blue line (sulphide) along the margin of the gums, paralyzed extensors, constipation, etc., give iodides to saturation (sodium and calcium iodides being best); sulphurated potassa baths.

Lobelia.—If the patient has failed to vomit, use emetics; follow with tannin, stimulants, strychnine, opiates.

Lunar Caustic.—See Silver Compounds.

Matches.—See Phosphorus.

Mercury Compounds (also Copper Compounds).—Empty the stomach (mustard, zinc sulphate, apomorphine, ipecac, pump); follow with albumin (white of one egg to every 4 grains of corrosive sublimate. Too much must not be given lest the precipitate formed by the mercuric salt and albumin be redissolved. Now give an emetic—warm water with sodium bicarbonate, zinc sulphate or mustard, and wash out the stomach with demulcent drinks (flaxseed or elm). If egg white is not convenient, one may use for mercury salts, gluten, wheat flour

in paste form, milk, or chop and diffuse in water fresh meat and administer the broth. Morphine for pain. For copper compounds also use stimulants; relieve the pain with opium or give reduced iron or weak solution of potassium ferrocyanide; then potassium iodide until the system is saturated to promote elimination.

MORPHINE SALTS.—See Opium.

MUSCARINE.—See Mushrooms.

MUSHROOMS (and Poisonous Fungi; also Muscarine).— Empty the stomach (mustard, zinc sulphate, apomorphine, pump); inject at once solution of atropine, or after emesis give tincture of belladonna every half hour; castor oil and enema to remove fungi from lower bowel; stimulants; the body should also be kept warm.

NICOTINE.—See Tobacco.

NITRATES.—See Chlorates.

NITROBENZENE. — (Oil Mirbane).—Empty the stomach (mustard, zinc sulphate, pump), washing it out with plenty of warm water if possible. Give stimulants by the mouth, the rectum or hypodermically; artificial respiration which must be maintained by weak, interrupted currents to the chest wall. Rouse the patient by the douche; hypodermic atropine may be useful.

NITROGLYCERIN.—Like Amyl Nitrite.

NITROUS OXIDE GAS.—See Chloroform.

NUX VOMICA.—See Strychnine.

OIL BITTER ALMOND.—See Acid Hydrocyanic.

OIL MIRBANE.—See Nitrobenzene.

OPIUM (also Laudanum, Morphine, Codeine Lactucarium, Cannabis Indica)—When the poison

has been taken by the mouth give at once a solution of potassium permanganate, then empty the stomach, which may be difficult, by pump, apomorphine, mustard or zinc sulphate. Wash the stomach out well with hot coffee, leaving there a pint or more; keep the body warm with hot wraps, but use alternate hot and cold douches to the head. Use hypodermic solution of atropine every 15 minutes for three doses; tannin and strychnine are also valuable. Apply electricity to chest muscles and artificial respiration. Keep the patient awake by shaking, flicking with a towel, applying cold water over the face and chest, keep patient moving; give inhalation of amyl nitrite. Evacuate the bladder often to prevent reabsorption.

Phenacetin.—Like Acetanilid.

Phosphorus (as well as Rat Poison and Matches), —Empty the stomach (copper sulphate, until the patient has vomited sufficiently; zinc sulphate, mustard, pump—the copper forming insoluble black phosphide). Follow this with old (oxygenated, acid, French) oil of turpentine in mucilage or floating on water; may also inhale diluted turpentine vapor; give charcoal or lime water to prevent action on tissues; also magnesium sulphate as a cathartic. Potassium permanganate, opium, and egg white may be of service, but never use fats or fatty oils, as these dissolve phosphorus, thus aiding in its absorption. It is mostly eliminated by the urine, hence the bladder should be frequently evacuated.

Physostigma (and Physostigmine).—Evacuate the stomach (mustard, zinc sulphate, ipecac,

apomorphine, pump); hypodermic of atropine until pupils dilate. Should this fail, give chloral, or hypodermic of strychnine. Diffusible stimulants, coffee, alcohol, etc., are used and artificial respiration should be induced if necessary; empty the bladder often.

PHYTOLACCA.—It acts *per se* as an emeto-cathartic, hence after the vomiting give stimulants, alcohol, ether, opium, digitalis.

PICROTOXIN.—See Strychnine.

PILOCARPUS (and Pilocarpine).—Evacuate the stomach, follow with hypodermic of atropine, or tincture of belladonna, until pupils are dilated; may give tannin.

POTASSA.—See Alkalies.

POTASSIUM BICHROMATE and CHROMATE.—See Chromic Acid.

POTASSIUM CYANIDE.—See Acid Hydrocyanic.

POTASSIUM NITRATE.—See Chlorates.

PRUSSIC ACID.—See Acid Hydrocyanic.

PULSATILLA.—Give tannic acid and follow with an emetic; alcohol, opium, or digitalis may also be indicated.

RAT PASTE.—See Phosphorus; also Arsenic.

RHUS TOXICODENDRON.—Rub in a saturated solution of lead acetate in diluted alcohol, and repeat for several days; 5% solution or 10% oleate of cocaine is also effective; a solution of 2 drams of lead acetate and 4 drams of ammonium chloride in 8 fl. oz. of water has also been recommended. Internally, opium or coffee may be used to relieve the nervous irritability.

SABADILLA.—See Veratrum Viride.

Savine (oil and tops; also Tansy).—If not vomited and the throat not inflamed, evacuate the stomach with mustard, zinc sulphate, ipecac, pump. If the bowels have not moved freely, give either castor oil or epsom salt; allay pain with morphine and demulcents.

Scillain (Scillitin).—See Digitalis.

Scoparius.—See Digitalis.

Silver Compounds.—Give common salt dissolved in warm water, to form insoluble silver chloride; or use egg white or milk; (follow with en emetic (mustard), and large draughts of warm water; give demulcent drinks (arrowroot, elm, flaxseed, gruel).

Snake Bites.—Suck the wound and apply to it an alkaline solution of potassium permanganate (may inject this under the skin). In severe cobra poisoning, with death threatening, bleed at one limb and transfuse blood by the other; give artificial respiration and weak interrupted galvanic shocks to the walls of the chest; inhale and give ammonia by the mouth.

Soda.—See alkalies.

Solanin.—See Belladonna.

Staphisagria (Stavesacre).—Evacuate the stomach (emetics, pump, draughts of warm water; give tannin, charcoal, diffusible stimulants. Keep the patient quiet and the extremities warm. Give chloral hydrate, or potassium bromide; or better inhale chloroform for the spasms. Use all haste as death is usually caused by asphyxia.

Stings (Bees, Hornets, Wasps).—Apply ammonia water or some alkaline solution to the

part stung; extract the sting; use stimulants, if necessary. One may apply an onion to the part, but this is not as good as ammonia.

Stramonium.—See Belladonna.

Strophanthus (or strophanthin).—See Digitalis.

Strychnine Salts (or Brucine, Ignatia, Nux Vomica, Picrotoxin, Cocculus Indicus).—Remove the patient from all noise, quickly empty the stomach (mustard, zinc sulphate, apomorphine hypodermically); give tannin, charcoal, iodide of starch. Place the patient under chloroform, ether, or chloral and potassium bromide, thus keeping up gentle narcosis several hours if necessary; inhale amyl nitrite. If spasms threaten respiration, induce it artifically; empty the bladder often.

Sulfonal and Trional.—Give diuretics and saline cathartics; sodium bicarbonate and water freely.

Sulphuretted Hydrogen.—Resort to artificial respiration and inhalation of chlorine diluted with air; or give chlorine water or chlorinated lime.

Tansy.—See Savine.

Tartar Emetic.—See Antimony Compounds.

Tin Compounds.—Evacuate the stomach (mustard, zinc sulphate, ipecac, etc.). Give milk of calcined magnesia; demulcent drinks (elm, flaxseed, etc.); laudanum if there is much pain.

Tobacco (or Nicotine).—Concentrated enemas and large quantities of powder kill in a very few hours. If the patient has not already vomited the drug, empty the stomach by mustard, zinc

sulphate or pump; give plenty of water; let the patient lie down; inject a solution of strychnine nitrate or give tincture of nux vomica by the mouth; stimulants, brandy, whiskey, chloric ether, etc.; keep the body warm but apply cold douche to the head; tannin and astringent solutions may be given.

Turpentine.—Empty the stomach (mustard, zinc sulphate, ipecac, apomorphine, pump, tube). If there is no purging give enema, plenty of water and demulcent drinks to eliminate it by the kidneys. Apply hot fomentations to the loins. Allay the pain with opium.

Tyrotoxicon (in milk, cheese, ice cream, etc.).—Give emetics and rinse out stomach; follow with purgative enema.

Veratrum Viride (also Veratrine, Sabadilla, Veratrum Album).—Evacuate the stomach (unless the veratroidine constituent has ejected itself by causing vomiting), by mustard, zinc sulphate, ipecac or pump. Give recumbent position, head lowest; dry warmth to the body, wraps, blankets, etc.; give hot coffee by the mouth or rectum; tannin, diffusible stimulants, alcohol, brandy, whiskey, ammonia, morphine, electricity, artificial respiration; atropine antagonizes the cardiac depression.

White Precipitate.—See Mercury Compounds.

Zinc Compounds.—Should the patient not vomit, use plenty of warm water containing carbonate or bicarbonate of sodium, or mustard; follow this with white of egg and milk; solution of tannin or strong tea to form insoluble tannate; allay the abdominal pain by hot fomentations, morphine or tincture of opium.

CLASSIFICATION OF MEDICINES
ACCORDING TO
THEIR PHYSIOLOGIC ACTIONS

ALTERATIVES.

Acid, Arsenous.
Acid, Hydriodic.
Ammonium Benzoate.
Antimony Salts.
Arsenic and Mercury Iodide Solution.
Arsenites and Arsenates.
Calcium Chloride.
Colchicum.
Copper Salts.
Creosote and its compounds.
Gold Salts.
Guaiacol and its compounds.
Ichthyol.
Iodides.
Iodipin.
Iodoform.
Manganese Dioxide.
Mercurials.
Potassium Bichromate.
Potassium Chlorate.
Pulsatilla.
Sanguinaria.
Silver Salts.
Stillingia.
Sulphur.
Suprarenal Capsule.
Xanthoxylum.
Zinc Salts.

ANALGESICS. *See Anodynes, General.*

ANAPHRODISIACS.

Belladonna.
Bromides.
Bromipin.
Camphor.
Cocaine.
Conium.
Digitalis.
Gelsemium.
Hyoscyamus.
Opium.
Stramonium.

ANESTHETICS, GENERAL.

Chloroform.
Ether.
Ethyl Bromide.
(Nitrous Oxide).

ANESTHETICS LOCAL.

Chloretone.
Cocaine Hydrochloride.
Ether Spray.
Ethyl Chloride.
Eucaine.
Holocaine.
Menthol.
Tropacocaine.

ANODYNES, GENERAL.

Acetanilid.
Acid, Salicylic.
Aconitine.
Antipyrine.
Aspirin.
Atropine.
Bromides.
Butyl-chloral Hydrate.
Caffeine.
Camphor Monobrom.
Chloroform.
Codeine.
Gelseminine.
Methylene Blue.
Morphine Salts.
Oil Gaultheria.
Phenacetin.

ANODYNES, LOCAL.

Acid, Carbolic.
Aconite, Tincture.
Aconitine.
Ammonia water.
Atropine.
Belladonna.
Chloroform.
Chloral Hydrate.
Guaiacol.
Ichthyol.

ANTACIDS.
OR ALKALINES.

Calcium Carbonate.
Lime Water.
Lithium Carbonate.
Magnesia.
Magnesium Carbonate.
Potassium Bicarbonate.
Potassium Carbonate.
Potassium Hydrate.
Sodium Bicarbonate.
Sodium Carbonate.
Sodium Hydrate.

ANTHELMINTICS.

Aloes. (Enema.)
Aspidium.
Chenopodium.
Koussein.
Naphtalin.
Oil Turpentine.
Extract Male Fern.
Pelletierine Tannate.
Pumpkin Seed.
Quassia Infusion.

Santonin with Calomel.
Sodium Chloride.
Sodium Santoninate.
Spigelia.
Thymol.

ANTI-EMETICS.

Acid, Hydrocyanic.
Bismuth Subcarbonate.
Bismuth Subnitrate.
Bromides.
Cerium Oxalate.
Chloroform.
Codeine.
Ether.
Menthol.
Morphine.
Orexine Tannate.

ANTIGALACTAGOGUES.

Agaricin.
Belladonna.
Camphor; topically.
Conium.
Ergot.
Iodides.
Saline Purgatives.

ANTIHYDROTICS.

Acid, Camphoric.
Acid, Gallic.
Acid, Tannic.
Agaricin.
Atropine.
Lead Acetate.
Picrotoxin.
Quinine.
Salicin.

ANTILITHICS.

Acid, Benzoic.
Alkalies.
Benzoates.
Lithium Salts.
Magnesium Citrate.
Magnesium Oxide.
Piperazine.
Potassium Bicarbonate.
Potassium Carbonate.
Potassium Citrate.
Sodium Bicarbonate.
Sodium Phosphate.
Sodium Salicylate.

ANTIPARASITICS.

See Parasiticides.

ANTIPERIODICS.

Acid, Arsenous.
Acid, Picric.
Arsenites.
Berberine Carbonate.
Cinchona and
alkaloids.
Methylene Blue.
Quinine.
Salicin.

ANTIPHLOGISTICS. *See also Antipyretics.*

Aconite, Tincture.
Antimony-Potassium Tartrate.
Gelsemium.
Ichthyol; internally.
Lead Salts.
Opium.

ANTIPYRETICS.

Acetanilid.
Acid, Benzoic.
Acid, Carbolic.
Acid, Salicylic.
Aconite, Tincture.
Ammonium Acetate: Solution.
Ammonium Benzoate.
Aspirin.
Phenacetin.
Quinine and Salts.
Resorcin.
Veratrum Viride. Tincture.

ANTISEPTICS. *See also Disinfectants.*

Acetanilid.
Acid, Benzoic; and Benzoates.
Acid, Boric; and Borates.
Acid, Carbolic.
Acid, Picric.
Aristol.
Bismuth, Benzoate.
Bismuth, Oxyiodide.
Bismuth, Subgallate.
Borolyptol.
Chlorine Water.
Creolin.
Creosote and its compounds.
Eucalyptol.
Formaldehyde.
Glycozone.
Hydrogen Peroxide.
Hydrozone.
Ichthyol.
Iodoform.
Iodole.
Listerine.
Magnesium Salicylate.
Magnesium Sulphite.
Mercury Bichloride.
Mercury Chloride.
Mercury Cyanide.
Mercury Oxycyanide.
Naphtalin.
Naphtol.
Oil Cade.
Oil Eucalyptus.
Oil Gaultheria.
Oil Pinus Sylvestris.
Oil Turpentine.
Potassium Chlorate.
" Permanganate.
Pyoktanin.

Quinine.
Resorcin.
Salol.
Silver Citrate.
Silver Nitrate.
Sodium Biborate.
Sodium Bisulphite.
Sodium Salicylate.
Sodium Sulphocarbolate.
Sodium Thiosulphate.
Tannoform.
Terebene.
Thymol.
Xeroform.
Zinc Carbolate.
Zinc Permanganate.
Zinc Sulphocarbolate.

ANTISIALAGOGUES.

Atropine.
Belladonna.
Cocaine Hydrochloride.
Myrrh.
Opium.
Potassium Chlorate.
Sodium Borate.

ANTISPASMODICS.

Acid, Camphoric.
Ammonium Valerianate.
Amyl Nitrite.
Atropine.
Bromides.
Bromoform.
Camphor.
Camphor Monobrom.
Chloral Hydrate.
Chloroform.
Coniine Hydrobromide.
Eserine.
Ether.
Ethyl Bromide.
Ethyl Iodide.
Hyoscine Hydrobromide.
Hyoscyamus.
Lactucarium.
Lobelia.
Lupulin.
Morphine.
Musk.
Nitrites.
Nitroglycerine.
Opium.
Paraldehyde.
Pulsatilla: tincture.
Stramonium.
Zinc Valerianate.

ANTITUBERCULARS.

Acid, Cinnamic.
Acid, Sulphurous.
Arsenical Compounds.
Cantharidin.
Cod-Liver Oil.
Creosote and its compounds.
Guaiacol and Salts.

Glycerinophosphates.
Ichthyol.
Iodoform, topically.
Menthol.
Methylene Blue.
Sodium Cacodylate.
Sodium Cinnamate.
Sodium Formate: Subcutaneously.

ANTIZYMOTICS, *See Antispetics and Disinfectants.*

APERIENTS. *See Cathartics.*

APHRODISIACS.

Cantharides.
Damiana.
Glycerinophosphates.
Gold.
Nux Vomica.
Phosphorus.
Strychnine.

ASTRINGENTS.

Acid, Chromic.
Acid, Gallic.
Acid, Lactic.
Acid, Tannic.
Alum.
Aluminum Acetate. Solution.
Aluminum Chloride.
Aluminum Sulphate.
Bismuth Salts.
Copper Acetate.
Copper Sulphate.
Hydrastine Hydrochloride.
Hydrastis.
Ichthyol.
Iron Sulphate, and other iron salts.
Lead Acetate, and other lead salts.
Potassium Bichromate.
Silver Citrate.
Silver Nitrate.
Zinc Acetate.
Zinc Sulphate.

ASTRINGENTS, INTESTINAL.

Acid Lactic.
Acid Tannic.
Bismuth Salts.
Catechu.
Geranium.
Kino.
Krameria.
Lead Acetate.
Silver Nitrate.
Tannalbin.

CARDIAC SEDATIVES.

Acid, Hydrocyanic.
Aconite.

Antimony Preparations.
Chloroform.
Digitalis.
Gelsemium.
Pilocarpine.
Veratrine.
Veratrum Viride.

CARDIAC STIMULANTS.

Ammonia.
Ammonium Carbonate.
Atropine.
Caffeine.
Digitalis.
Ether.
Nitroglycerin.
(Oxygen.)
Sparteine Sulphate.
Strophanthus.
Strychnine (Tonic).

CARMINATIVES.

Anise.
Calumba.
Capsicum.
Cardamom.
Caraway.
Cascarilla.
Chamomile.
Cinchona.
Cinnamon.
Cloves.
Gentian.
Ginger.
Nutmeg.
Nux Vomica.
Oil Cajuput.
Oil Mustard.
Orange Peel.
Orexine Tannate.
Pepper.
Pimenta.
Quassia.
Sassafras.
Serpentaria.

CATHARTICS.

Laxatives:

Cascara Sagrada.
Figs.
Glycerin.
Magnesium Carbonate.
Magnesium Oxide.
Manna.
Oil Almond, Expressed.
Olive Oil.
Rahmnus Cathart.
Rhamnus Frang.
Sulphur.

Saline Purgatives:

Magnesium Citrate.
Magnesium Sulphate.
Potassium Bitartrate.
Potassium Tartrate.
Potassium and Sodium Tartrate.
Sodium Phosphate.

Sodium Sulphate.
Sodium Tartrate.

Simple Purgatives:

Aloes.
Calomel.
Castor Oil.
Rhubarb.
Senna.

Drastic Cathartics:

Colocynth.
Elaterium.
Euonynim.
Gamboge.
Jalap.
Oil, Croton.
Podophyllin.
Scammony.

Hydragogues:

Drastic Cathartics in large doses.
Saline Purgatives.

Cholagogues:

Aloin.
Euonynim.
Leptandrin.
Mercurials.
Ox-Gall.
Podophyllum.

CAUSTICS. *See Escharotics.*

CEREBRAL DEPRESSANTS. *See also Narcotics.*

Anesthetics, general.
Antispasmodics: several.
Hypnotics.
Narcotics.

CEREBRAL STIMULANTS.

Alcohol.
Amyl Nitrite.
Atropine.
Belladonna.
Caffeine.
Cannabis.
Coca.
Cocaine.
Coffee.
Ether.
Nitrogylcerin.
Strychnine.

CHOLAGOGUES. *See Cathartics: also Hepatic Stimulants.*

CONSTRUCTIVE. *See Tonics.*

COUNTER-IRRITANTS. *See Irritants.*

DEMULCENTS.

Acacia.
Albumin.
Althea.

Cetraria.
Chondrus.
Elm.
Flaxseed.
Gelatin.
Glycerin.
Oil Almond, Expressed.
Oil Olive.
Starch.

DEOXIDIZERS. (*Reducing Agents.*)

Acid, Pyrogallic.
Ichthyol.
Resorcin.

DEPILATORIES.

Barium Sulphide.
Calcium Oxide.
(Calcium Sulphydrate).
Cautery.
Sodium Ethylate.
Sodium Sulphide.

DIAPHORETICS AND SUDORIFICS.

Acid, Salicylic and Salicylates.
Aconite.
Ammonium Acetate.
Camphor.
Dover's Powder.
Ether.
Guaiac.
Opium.
Pilocarpine Hydrochloride.
Potassium Citrate.
Potassium Nitrite.
Sodium Nitrite.
Spirit Nitrous Ether.
Veratrum Viride.

DIGESTIVES.

Acid, Hydrochloric.
Acid, Lactic.
Ingluvin.
Lactopeptine.
Malt.
Orexin Tannate.
Pancreatin.
Papain.
Pepsin.

DISINFECTANTS. *See also Deoderants.*

Acid, Boric.
Acid, Carbolic.
Acid, Sulphurous.
Aluminum Chloride.
Ammonium Persulphate.
Borates.
Calcium Permanganate.
Chlorine Water.
Creolin.
Eucalyptol.
Formaldehyde.
Glycozone.

Hydrogen Peroxide.
Hydrozone.
Iron Sulphate.
Lime, Chlorinated.
Mercury, Bichloride.
Naphtol.
Oil Eucalyptus.
Potassium Permanganate.
Solution Chlorinated Soda.
Thymol.
Zinc Chloride.

DIURETICS.

Adonis Vernalis.
Ammonium Acetate.
Apocynum.
Atropine.
Belladonna.
Cactus Grandiflorus.
Caffeine.
Convallamarin.
Copaiba.
Cubebs.
Digitalis preparations.
Diuretin.
Juniper.
Kava Kava.
Lithium Salts.
Matico.
Nitrites.
Oil Juniper.
Oil Santal.
Pilocarpine Hydrochlor.
Piperazine.
Potassium Acetate.
Potassium Bitartrate.
Potassium Citrate.
Potassium Nitrate.
Sodium Acetate.
Sodium Nitrate.
Sparteine Sulphate.
Spirit Nitrous Ether.
Squill.
Strophanthus.
Theobromine.

ECBOLICS. *See Oxytocics.*

EMETICS.

Antimony and Potassium Tartrate.
Apomorphine Hydrochloride.
Copper Sulphate.
Emetine.
Ipecac.
Mercury Subsulphate.
Mustard with tepid water.
Zinc Sulphate.

EMMENAGOGUES.

Aloes.
Cantharides.
Ergot.
Guaiac.
Iron Chloride and other salts of iron.

Manganese. Dioxide
Myrrh.
Pennyroyal.
Potassium Permangan.
Rue.
Savine.
Tansy.

ERRHINES, (*Sternutatories*).

Cubebs.
Sanguinarine.
Veratrine.
White Hellebore.

ESCHAROTICS.

Caustics.

Acid, Acetic Glacial.
Acid, Arsenous.
Acid, Carbolic.
Acid, Carbolic, Iodized.
Acid, Chromic.
Acid, Lactic.
Acid, Nitric.
Alum Burnt.
Copper Sulphate.
Iodine.
Potassa.
Silver Nitrate.
Soda.
Sodium Ethylate.
Zinc Chloride.

EXPECTORANTS.

Acid, Benzoic.
Ammoniac.
Ammonium Carbonate.
Ammonium Chloride.
Ammonium Salicylate.
Antimony and Potassium Tartrate.
Antimony Salts in general.
Apomorphine Hydrochloride.
Balsam Tolu.
Benzoates.
Emetine in small doses.
Glycyrrhizin, Ammoniated.
Ipecac.
Lobelia.
Oil Turpentine.
Pilocarpine Hydrochlor.
Potassium Iodide.
Sanguinarine.
Saponin.
Senegin.
Squill.
Tar.
Terebene.

GALACTAGOGUES.

Acid, Lactic.
Alcohol.
Ammonium Chloride.
Castor Oil: topically.
Extract Malt.
Jaborandi.

Pilocarpine Hydrochlor.

GASTRIC TONICS.

(*Stomachics.*)

Alkalies: before meals.
Aromatics.
Berberine Carbonate.
Bismuth Salts.
Bitters.
Carminatives.
Hydrastis.
Ichthalbin.
Nux Vomica.
Orexine Tannate.
Quassin.

HEMATINICS.

Arsenical Compounds.
Ext. Bone Marrow.
Hemo-gallol.
Hemoglobins.
Iron Compounds.
Manganese Compounds.
Sodium Cacodylate.

HEMOSTATICS. *See Styptics and Hemostatics.*

HEPATIC DEPRESSANTS.

Lessening Bile.

Lead Acetate.
Purgatives: Many of them.
Morphine.
Opium.
Quinine.

Lessening Urea:

Colchicum.
Morphine.
Opium.
Quinine.

Lessening Glycogen:

Arsenic.
Antimony.
Codeine.
Dionin.
Morphine.
Opium.
Phosphorus.

HEPATIC STIMULANTS.

Acid, Benzoic.
Acid, Nitric.
Acid, Nitrohydrochlor.
Aloes.
Ammonium Chloride.
Amyl Nitrite.
Antimony.
Arsenic.
Benzoates.
Calomel.
Colocynth.
Euonynim.
Podophyllin.
Resin Jalap.
Sanguinarine.

Sodium Bicarbonate.
Sodium Phosphate.
Sodium Salicylate.
Sodium Sulphate.

HYPNOTICS (*Soporifics*).

Acetanilid.
Apomorphine Hydrochloride.
Bromides.
Cannabin Tannate.
Chloral Hydrate.
Chloralose.
Chloretone.
Codeine.
Dionin.
Duboisine Sulphate.
Hyoscine Hydrobrom.
Hyoscyamine.
Morphine.
Paraldehyde.
Sulfonal.
Trional.
Urethane.

INTESTINAL ASTRINGENTS.

See Astringents.

IRRITANTS.

Rubefacients:

Ammonia.
Arnica.
Capsicum.
Iodine.
Menthol.
Mustard.
Oil Turpentine.
Oleoresin Capsicum.

Pustulants:

Antimony and Potassium Tartrate.
Oil Croton.
Silver Nitrate.

Vesicants:

Acid, Acetic, Glacial.
Cantharides.
Chrysarobin.
Oil Mustard.

LAXATIVES. *See Cathartics:*

MOTOR DEPRESSANTS.

Acid Hydrocyanic.
Aconite.
Amyl Nitrite.
Apomorphine Hydrochloride.
Bromides.
Bromipin.
Bromoform..
Chloral Hydrate.
Chloroform (large doses).
Coniine Hydrobromide.
Gelsemium.
Gold Bromide.
Lobelia.
Muscarine.

Nitrites.
Nitroglycerin.
Physostigmine (Eserine).
Quinine (large doses).
Sparteine Sulphate.
Veratrum Viride.

MOTOR EXCITANTS.

Alcohol.
Atropine.
Belladonna.
Brucine.
Camphor.
Chloroform.
Nux Vomica.
Picrotoxin.
Pilocarpine Hydrochlor.
Pyridine.
Strychnine.

MYDRIATICS.

Atropine.
Homatropine Hydrobromide.
Hyoscine Hydrobrom.
Scopolamine Hydrobromide.

MYOTICS.

Arecoline, Hydrobrom.
Physostigmine. (Eserine.)
Pilocarpine Hydrochlor.

NARCOTICS. *See also Hypnotics.*

Chloroform.
Chloral Hydrate.
Conium.
Hyoscine.
Hyoscyamine.
Morphine.
Opium.
Stramonium.

OXYTOCICS (*Ecbolics*).

Cotton Root Bark.
Ergot.
Hydrastine.
Hydrastinine Hydrochloride.
Pennyroyal.
Quinine.
Rue.
Savine.

PARASITICIDES.

See Antiseptics and Disinfectants.

PURGATIVES. *See Cathartics.*

REFRIGERANTS.

Acid, Citric.
Acid, Phosphoric, Dil.
Acid, Tartaric.
Ammonium Acetate.
Magnesium Citrate.

Magnesium Sulphate.
Potassium Bitartrate.
Potassium Citrate.
Potassium Nitrate.
Potassium Tartrate.
Sodium Nitrate.
Sodium Tartrate.

RESOLVENTS (*Discutients*).

Arsenic.
Ichthyol.
Iodides.
Iodine.
Iodipin.
Iodole.
Mercurials.
Thiosinamine.

RESPIRATORY DEPRESSANTS.

Acid, Hydrocyanic.
Aconite.
Chloral.
Chloroform.
Conium.
Gelsemium.
Muscarine.
Opium.
Physostigma.
Veratrum Viride.

RESPIRATORY STIMULANTS.

Aspiodiosperma. (Quebracho).
Aspidiospermine.
Atropine.
Caffeine.
Cocaine.
Strychnine.

RESTORATIVES. *See Hematinics, Tonics.*

RUBEFACIENTS. *See Irritants.*

SEDATIVES (NERVE). *See also Depressants.*

Acetanilid.
Acid, Hydrobromic.
Amyl Nitrite.
Antipyrin.
Bromides.
Bromipin.
Bromoform.
Butyl-Chloral Hydrate.
Camphor.
Camphor, Monobrom.
Cardamom.
Chloral Hydrate.
Chloroform.
Cocaine.
Codeine.
Coniun.
Ethyl Bromide.
Hyoscine Hydrobrom.
Hyoscyamine.
Hyoscyamus.
Lactucarium.

Lavender.
Lobelia.
Morphine.
Paraldehyde.
Scopolamine Hydrobromide.
Stramonium; tincture.
Sulfonal.
Urethane.
Valerian and Valerianates.

SIALAGOGUES.
(*Ptyalagogues*).

Acids and Alkalies.
Antimony Compounds.
Capsicum.
Ginger.
Iodine Compounds.
Mercurials.
Muscarine.
Mustard.
Pilocarpine Hydrochlor.
Pyrethrum.

SOPORIFICS. *See Hypnotics.*

SPINAL STIMULANTS.
See also Motor Excitants.

Alcohol.
Atropine.
Camphor: small doses.
Nux Vomica.
Picrotoxin.
Strychnine.

STERNUTATORIES. *See Errhines.*

STOMACHICS.
See Gastric Tonics.

STYPTICS AND HEMOSTATICS,

Acid, Gallic.
Acid, Tannic.
Adrenalin.
Alum.
Antipyrine.
Copper Sulphate.
Extract Suprarenal Capsule.
Hamamelis.
Hydrastinine Hydrochloride.
Iron Chloride, Ferric.
Iron Subsulphate.
Iron Sulphate.
Lead Acetate.
Manganese Sulphate.
Oil Turpentine.
Silver Nitrate.
Stypticin.
Terpinol.

SUDORIFICS. *See Diaphoretics.*

TENIAFUGES. *See Anthelmintics.*

TONICS, GENERAL.
See also Hematinics.

Vegetable Tonics:

Bitters.
Berberine Carbonate.
Cinchona Alkaloids and Salts.
Cod-Liver Oil.
Eucalyptus.
Hydrastis.
Quassin.
Salicin.

Mineral Tonics:

Acids, Mineral.
Acids, Arsenous and its salts.
Acid, Hypophosphorous.
Acid, Lactic.
Bismuth Salts.
Calcium Glycerinophos.
Copper Salts; small doses.
Gold Salts.
Glycerinophosphates.
Hypophosphites.
Ichthyol.
Iron Compounds.
Manganese Compounds.
Phosphorus.

VASCO-CONSTRICTORS.

Adrenalin.
Ergot.
Extract Suprarenal Capsule.
Hydrastinine Hydrochloride.
Stypticin.

VASO-DILATORS.

Amyl Nitrite.
Ether.
Nitroglycerin.
Potassium Nitrite.
Sodium Nitrite.
Spirit Nitrous Ether.

VERMICIDES. *See Anthelmintics.*

VESICANTS. *See Irritants.*

PHYSIOLOGICAL POINTS FOR PRACTITIONERS.

Frequency of Heart Beat.	Per Minute.
Horse	30—45
Ox	40—50
Ass	45—52
Pig, Sheep, Goat	70—80
Dog	70—120
Cat	120—140
Man	60—80
Horse, after trotting	60—80
Horse, after galloping	80—100
Calf, 2 weeks about	70
Calf, 6 weeks, about	65
Calf, 6 mos.–12 mos., about	55—65
Elephant	25—28
Camel	30
Lion	40—50
Rabbit	140—160
Birds	120—140
Frog	60
Fish	20—25

(Ellenberger and Scheunert.)

Respiratory Frequence.	Per Minute
Horse	8—16
Cattle	10—30
Sheep and Goat	12—20
Swine	8—18
Dog	15—20
Cat	24
Man	15—20
Tiger	6
Lion	10

Monkey	19
Rabbit	55
Guinea pig and rat	100—150
Hen	40—50
Pigeon	50—70

Body Temperature.

(Average Rectal Temperature).

Elephant	97.°6
Camel	99.°5
Horse	100.°2
Ass	98.°5
Cow	101.°5
Sheep	104.° —105.°
Goat	103.°
Pig	101.°7—103.°3
Dog	101.° —102.°
Cat	101.°7
Rabbit	101.°7—102.°5
Guinea-pig	101.°7—102.°6
Fowl	106.°9—109.°
Duck	107.°8—110.°5

Table of Puberty.

Mare	12—24 months
Cow	12—18 months
Sheep	8—12 months
Goat	8—12 months
Pig	4— 5 months
Bitch	7—10 months
Cat	8—12 months

Duration of Pregnancy.

Mare	330—340 days
Ass	348—377 days
Cow	270—285 days
Sheep and Goat	145—155 days
Sow	115—120 days
Bitch	58— 65 days
Cat	54— 62 days
Camel	45 weeks
Zebra	13 months
Elephant	24 months (nearly)

Table of Oestrum.

Mare—Duration of Oestrum	5—7 days
Cow—Duration of Oestrum	2—4 days
Ewe—Duration of Oestrum	1—2 days
Sow—Duration of Oestrum	2—4 days
Bitch—Duration of Oestrum	1—3 weeks
Cat—Duration of Oestrum	1—3 weeks

Quantity of Feces Daily (Approximate)

Horse	34.8 lbs.
Cow	56. lbs.
Sheep	2.8 lbs.
Pig	about 1. lb.

Quantity of Urine Daily (Approximate)

Horse	10—12 pints, 12—14 lbs.
Cow	50—62 pints, 50—60 lbs.
Sheep	1— 2 pints, 1— 2 lbs.
Pig	2— 3 pints, 2— 3 lbs.
Dog	¾— 2 pints, 1— 2 lbs.

Drugs Excreted by the Mammary Gland

Acid, Boric
Acid, Carbolic
Acid, Salicylic
Aloes
Antipyrin
Arsenic and its salts
Atropine
Bromine and its Compounds
Chloroform
Copper and its salt
Croton
Ether
Iodine and its compounds
Lead and its salts
Mercury and its salts
Pot. et Antim. Tart.
Rhubarb
Sodii Sulph. (SO_3 of milk increased)
Turpentine

Tables of Gestation

The first column represents the date of service. In the following columns, on the same horizontal line, under the name of each animal, represent the date of expected birth according to the date of service.

JAN.	MARE Dec.	COW Oct.	SOW April	EWE May
1	2	8	22	27
2	3	9	23	28
3	4	10	24	29
4	5	11	25	30
5	6	12	26	31
6	7	13	27	June 1
7	8	14	28	2
8	9	15	29	3
9	10	16	30	4
10	11	17	May 1	5
11	12	18	2	6
12	13	19	3	7
13	14	20	4	8
14	15	21	5	9
15	16	22	6	10
16	17	23	7	11
17	18	24	8	12
18	19	25	9	13
19	20	26	10	14
20	21	27	11	15
21	22	28	12	16
22	23	29	13	17
23	24	30	14	18
24	25	31	15	19
25	26	Nov. 1	16	20
26	27	2	17	21
27	28	3	18	22
28	29	4	19	23
29	30	5	20	24
30	31	6	21	25
31	Jan. 1	7	22	26

FEB.	MARE Jan.	COW Nov.	SOW May	EWE June
1	2	8	23	27
2	3	9	24	28
3	4	10	25	29
4	5	11	26	30
5	6	12	27	July 1
6	7	13	28	2
7	8	14	29	3
8	9	15	30	4
9	10	16	31	5
10	11	17	June 1	6
11	12	18	2	7
12	13	19	3	8
13	14	20	4	9
14	15	21	5	10
15	16	22	6	11
16	17	23	7	12
17	18	24	8	13
18	19	25	9	14
19	20	26	10	15
20	21	27	11	16
21	22	28	12	17
22	23	29	13	18
23	24	30	14	19
24	25	Dec. 1	15	20
25	26	2	16	21
26	27	3	17	22
27	28	4	18	23
28	29	5	19	24
29	30	6	20	25

MAR.	MARE	COW	SOW	EWE
	Jan.	Dec.	June	July
1	31	7	21	26
2	Feb. 1	8	22	27
3	2	9	23	28
4	3	10	24	29
5	4	11	25	30
6	5	12	26	31
7	6	13	27	Aug. 1
8	7	14	28	2
9	8	15	29	3
10	9	16	30	4
11	10	17	July 1	5
12	11	18	2	6
13	12	19	3	7
14	13	20	4	8
15	14	21	5	9
16	15	22	6	10
17	16	23	7	11
18	17	24	8	12
19	18	25	9	13
20	19	26	10	14
21	20	27	11	15
22	21	28	12	16
23	22	29	13	17
24	23	30	14	18
25	24	31	15	19
26	25	June 1	16	20
27	26	2	17	21
28	27	3	18	22
29	28	4	19	23
30	Mar. 1	5	20	24
31	2	6	21	25

APRIL	MARE	COW	SOW	EWE
	Mar.	Jan.	July	Aug.
1	3	7	22	26
2	4	8	23	27
3	5	9	24	28
4	6	10	25	29
5	7	11	26	30
6	8	12	27	31
7	9	13	28	Sept. 1
8	10	14	29	2
9	11	15	30	3
10	12	16	31	4
11	13	17	Aug. 1	5
12	14	18	2	6
13	15	19	3	7
14	16	20	4	8
15	17	21	5	9
16	18	22	6	10
17	19	23	7	11
18	20	24	8	12
19	21	25	9	13
20	22	26	10	14
21	23	27	11	15
22	24	28	12	16
23	25	29	13	17
24	26	30	14	18
25	27	31	15	19
26	28	Feb. 1	16	20
27	29	2	17	21
28	30	3	18	22
29	31	4	19	23
30	April 1	5	20	24

MAY	MARE	COW	SOW	EWE
	April	Feb.	Aug.	Sept.
1	2	6	21	25
2	3	7	22	26
3	4	8	23	27
4	5	9	24	28
5	6	10	25	29
6	7	11	26	30
7	8	12	27	Oct. 1
8	9	13	28	2
9	10	14	29	3
10	11	15	30	4
11	12	16	31	5
12	13	17	Sept. 1	6
13	14	18	2	7
14	15	19	3	8
15	16	20	4	9
16	17	21	5	10
17	18	22	6	11
18	19	23	7	12
19	20	24	8	13
20	21	25	9	14
21	22	26	10	15
22	23	27	11	16
23	24	28	12	17
24	25	Mar. 1	13	18
25	26	2	14	19
26	27	3	15	20
27	28	4	16	21
28	29	5	17	22
29	30	6	18	23
30	May 1	7	19	24
31	2	8	20	25

JUNE	MARE	COW	SOW	EWE
	May	Mar.	Sept.	Oct.
1	3	9	21	26
2	4	10	22	27
3	5	11	23	28
4	6	12	24	29
5	7	13	25	30
6	8	14	26	31
7	9	15	27	Nov. 1
8	10	16	28	2
9	11	17	29	3
10	12	18	30	4
11	13	19	Oct. 1	5
12	14	20	2	6
13	15	21	3	7
14	16	22	4	8
15	17	23	5	9
16	18	24	6	10
17	19	25	7	11
18	20	26	8	12
19	21	27	9	13
20	22	28	10	14
21	23	29	11	15
22	24	30	12	16
23	25	31	13	17
24	26	April 1	14	18
25	27	2	15	19
26	28	3	16	20
27	29	4	17	21
28	30	5	18	22
29	31	6	19	23
30	June 1	7	20	24

JULY	MARE	COW	SOW	EWE
	June	April	Oct.	Nov.
1	2	8	21	25
2	3	9	22	26
3	4	10	23	27
4	5	11	24	28
5	6	12	25	29
6	7	13	26	30
7	8	14	27	Dec. 1
8	9	15	28	2
9	10	16	29	3
10	11	17	30	4
11	12	18	31	5
12	13	19	Nov. 1	6
13	14	20	2	7
14	15	21	3	8
15	16	22	4	9
16	17	23	5	10
17	18	24	6	11
18	19	25	7	12
19	20	26	8	13
20	21	27	9	14
21	22	28	10	15
22	23	29	11	16
23	24	30	12	17
24	25	May 1	13	18
25	26	2	14	19
26	27	3	15	20
27	28	4	16	21
28	29	5	17	22
29	30	6	18	23
30	July 1	7	19	24
31	2	8	20	25

AUG.	MARE	COW	SOW	EWE
	July	May	Nov.	Dec.
1	3	9	21	26
2	4	10	22	27
3	5	11	23	28
4	6	12	24	29
5	7	13	25	30
6	8	14	26	31
7	9	15	27	Jan. 1
8	10	16	28	2
9	11	17	29	3
10	12	18	30	4
11	13	19	Dec. 1	5
12	14	20	2	6
13	15	21	3	7
14	16	22	4	8
15	17	23	5	9
16	18	24	6	10
17	19	25	7	11
18	20	26	8	12
19	21	27	9	13
20	22	28	10	14
21	23	29	11	15
22	24	30	12	16
23	25	31	13	17
24	26	June 1	14	18
25	27	2	15	19
26	28	3	16	20
27	29	4	17	21
28	30	5	18	22
29	31	6	19	23
30	Aug. 1	7	20	24
31	2	8	21	25

SEPT.	MARE	COW	SOW	EWE
	Aug.	June	Dec.	Jan.
1	3	9	22	26
2	4	10	23	27
3	5	11	24	28
4	6	12	25	29
5	7	13	26	30
6	8	14	27	31
7	9	15	28	Feb. 1
8	10	16	29	2
9	11	17	30	3
10	12	18	31	4
11	13	19	Jan. 1	5
12	15	20	2	6
13	15	21	3	7
14	16	22	4	8
15	17	23	5	9
16	18	24	6	10
17	19	25	7	11
18	20	26	8	12
19	21	27	9	13
20	22	28	10	14
21	23	29	11	15
22	24	30	12	16
23	25	July 1	13	17
24	26	2	14	18
25	27	3	15	19
26	28	4	16	20
27	29	5	17	21
28	30	6	18	22
29	31	7	19	23
30	Sept. 1	8	20	24

OCT.	MARE	COW	SOW	EWE
	Sept.	July	Jan.	Feb.
1	2	9	21	25
2	3	10	22	26
3	4	11	23	27
4	5	12	24	28
5	6	13	25	Mar. 1
6	7	14	26	2
7	8	15	27	3
8	9	16	28	4
9	10	17	29	5
10	11	18	30	6
11	12	19	31	7
12	13	20	Feb. 1	8
13	14	21	2	9
14	15	22	3	10
15	16	23	4	11
16	17	24	5	12
17	18	25	6	13
18	19	26	7	14
19	20	27	8	15
20	21	28	9	16
21	22	29	10	17
22	23	30	11	18
23	24	31	12	19
24	25	Aug. 1	13	20
25	26	2	14	21
26	27	3	15	22
27	28	4	16	23
28	29	5	17	24
29	30	6	18	25
30	Oct. 1	7	19	26
31	2	8	20	27

NOV.	MARE	COW	SOW	EWE
	Oct.	Aug.	Feb.	Mar.
1	3	9	21	28
2	4	10	22	29
3	5	11	23	30
4	6	12	24	31
5	7	13	25	April 1
6	8	14	26	2
7	9	15	27	3
8	10	16	28	4
9	11	17	Mar. 1	5
10	12	18	2	6
11	13	19	3	7
12	14	20	4	8
13	15	21	5	9
14	16	22	6	10
15	17	23	7	11
16	18	24	8	12
17	19	25	9	13
18	20	26	10	14
19	21	27	11	15
20	22	28	12	16
21	23	29	13	17
22	24	30	14	18
23	25	31	15	19
24	26	Sept. 1	16	20
25	27	2	17	21
26	28	3	18	22
27	29	4	19	23
28	30	5	20	24
29	31	6	21	25
30	Nov. 1	7	22	26

DEC.	MARE	COW	SOW	EWE
	Nov.	Sept.	Mar.	April
1	2	8	23	27
2	3	9	24	28
3	4	10	25	29
4	5	11	26	30
5	6	12	27	May 1
6	7	13	28	2
7	8	14	29	3
8	9	15	30	4
9	10	16	31	5
10	11	17	April 1	6
11	12	18	2	7
12	13	19	3	8
13	14	20	4	9
14	15	21	5	10
15	16	22	6	11
16	17	23	7	12
17	18	24	8	13
18	19	25	9	14
19	20	26	10	15
20	21	27	11	16
21	22	28	12	17
22	23	29	13	18
23	24	30	14	19
24	25	Oct. 1	15	20
25	26	2	16	21
26	27	3	17	22
27	28	4	18	23
28	29	5	19	24
29	30	6	20	25
30	Dec. 1	7	21	26
31	2	8	22	27

RED CORPUSCLES PER CUBIC MILLIMETER OF BLOOD.

Horse	7,431,200	(average from 10 investigators)
Colt	9,390,000	(Storch)
Cow	6,022,700	(average from 7 investigators)
Calves	8,523,000	(Storch)
Sheep	10,439,000	(average from 5 investigators)
Lambs	11,032,000	(Storch)
Goat	14,507,000	(average from 6 investigators)
Swine	7,497,640	(average from 5 investigators)
Dog	6,240,625	(average from 16 investigators)
Cat	7,828,000	(average from 4 investigators)
Rabbit	5,668,320	(average from 10 investigators)
Guinea Pig	4,983,250	(average from 6 investigators)
Fowl	3,064,500	(average from 9 investigators)

LEUCOCYTES PER CUBIC MILLIMETER OF BLOOD.

Horse	9,473	(average from 11 investigators)
Colts	14,034	(Storch)
Cow	8,133	(average from 5 investigators)
Calves	15,739	(Storch)
Sheep	7,140	(average from 4 investigators)
Lambs	10,198	(Storch)
Goat	9,750	(average from 3 investigators)
Swine	13,420	(average from 2 investigators)
Dog	11,370	(average from 15 investigators)
Cat	12,410	(average from 5 investigators)
Rabbit	9,161	(average from 12 investigators)
Guinea Pig	9,145	(average from 5 investigators)
Fowl	26,723	(average from 7 investigators)

Size of Red Corpuscles.

Horse	5.60μ (average from 5 investiagtors)
Cow	5.85μ (average from 4 investigators)
Sheep	4.90μ (average from 4 investigators)
Goat	3.96μ (average from 5 investigators)
Swine	6.19μ (average from 3 investigators)
Dog	7.20μ (average from 6 investigators)
Cat	6.03μ (average from 5 investigators)
Rabbit	6.80μ (average from 5 investigators)
Guinea Pig	7.52μ (average from 4 investigators)
Fowl	12.62μ lo, 7.25μ wide (average from 7 investigators)

Composition of Milk.

	Water	Solids	Proteid	Fat	Sugar	Salts	Sp. Gr.
	%	%	%	%	%	%	
Woman	87.58	12.42	2.01	3.74	6.37	0.30	1.0298
Cow	87.27	12.73	3.39	3.68	4.94	0.72	1.0313
Mare	90.26	9.74	1.86	1.06	6.50	0.32	1.0348
Ass	90.12	9.88	1.85	1.37	6.19	0.47	1.033
Sheep	83.57	16.43	5.15	6.18	4.17	0.93	1.0355
Goat	86.88	13.12	3.76	4.07	4.44	0.85	1.0329
Swine	82.37	16.73	6.09	6.44	4.04	1.06	
Bitch	77.00	23.00	9.72	9.26	3.11	0.91	
Cat	81.63	18.37	9.08	3.33	4.91	0.58	
Rabbit	69.50	30.50	15.54	10.45	1.95	2.56	

(Ellenberger and Scheunert.)

Composition of Urine.

	Horse		Man	
Amount in 24 hours	3000–4000 cc.		1000–1500 cc.	
Specific gravity	1025–1050		1015–1025	
Reaction	Alkaline		Acid	
Solids	50–120	parts per 1000	34–50	parts per 1000
Chlorides	8–14	parts per 1000	6–9	parts per 1000
Phosphates	Trace		1.5–2.5	parts per 1000
Sulphates	2–3	parts per 1000	1.5–3.	parts per 1000
Urea	20–40	parts per 1000	14–22	parts per 1000
Uric Acid	Trace		0.25–0.40	parts per 1000
Hippuric acid	4–8	parts per 1000	———	
Indican	Much		Absent or Trace	

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